

To: Doyle, Liz[Doyle.Liz@epa.gov]
From: McClintock, Katie
Sent: Tue 3/1/2016 3:35:58 AM
Subject: RE: Info on Specialty Glass Inc.

I gave you what I had. I emailed the guy to get the titles in writing since I had heard them on the phone.

Katie

-----Original Message-----

From: Doyle, Liz
Sent: Monday, February 29, 2016 5:48 PM
To: McClintock, Katie <McClintock.Katie@epa.gov>
Subject: RE: Info on Specialty Glass Inc.

Not having any luck searching worldwide catalog databases for these.

Can you give me the authors' names spelled out?

Liz Doyle, MILS

Supervisory Librarian (contractor, ASRC Primus) U.S. EPA Region 10 Library / OMP-0102 / 1200 6th Ave, Ste 900 Seattle WA 98101-3140

doyle.liz@epa.gov
p: 206-553-2134
<http://www2.epa.gov/libraries/region-10-library-services>

-----Original Message-----

From: Doyle, Liz
Sent: Monday, February 29, 2016 5:09 PM
To: McClintock, Katie <McClintock.Katie@epa.gov>
Subject: RE: Info on Specialty Glass Inc.

Will check.

Liz Doyle, MILS

Supervisory Librarian (contractor, ASRC Primus) U.S. EPA Region 10 Library / OMP-0102 / 1200 6th Ave, Ste 900 Seattle WA 98101-3140

doyle.liz@epa.gov
p: 206-553-2134
<http://www2.epa.gov/libraries/region-10-library-services>

-----Original Message-----

From: McClintock, Katie
Sent: Monday, February 29, 2016 5:08 PM
To: Doyle, Liz <Doyle.Liz@epa.gov>
Subject: Re: Info on Specialty Glass Inc.

I'll look. Also found out name of two books:

Technical approach to glass manufacture by miloes vols and colored glass by wahl(sp?). Any chance we have access to either?

Sent from my iPhone

> On Feb 29, 2016, at 5:02 PM, Doyle, Liz <Doyle.Liz@epa.gov> wrote:

>

> Hi Katie,

> So far the sources I've checked aren't turning anything up. Historic company information is hard for me to come by. However, there are internal EPA databases containing administrative records for enforcement actions that as a contractor I do not have access to. I don't even know if this company was registered in Washington or in another state. While I'm checking what I can, I would suggest that you contact your office or unit records coordinator (if that's the right term). A search of old enforcement records might be VERY informative. At the very least, there should be some kind of index by company name within Region 10 records, right? Try that and I'll keep looking.

>

>

> _____
> Liz Doyle, MILS

> Supervisory Librarian (contractor, ASRC Primus) U.S. EPA Region 10

> Library / OMP-0102 / 1200 6th Ave, Ste 900 Seattle WA 98101-3140

>

> doyle.liz@epa.gov

> p: 206-553-2134

> <http://www2.epa.gov/libraries/region-10-library-services>

>

> -----Original Message-----

> From: McClintock, Katie

> Sent: Sunday, February 28, 2016 1:33 PM

> To: Doyle, Liz <Doyle.Liz@epa.gov>

> Subject: Info on this

>

> This link stood out. I'm curious to learn more about where this plant was and when they shut down. Sounds like they did testing and had environmental issues similar to what we are seeing now. Thanks!

>

> http://pdf.wri.org/bell/case_1-56973-261-2_full_version_english.pdf

>

>

To: Throwe, Scott[Throwe.Scott@epa.gov]
From: McClintock, Katie
Sent: Tue 3/1/2016 3:22:15 AM
Subject: RE: McClintock, Katie has shared 'Colored Glass'

You were added. That is how you got the email. I checked the permissions and you are on. Did it ever work for you? I haven't heard of anyone else having trouble getting in but maybe we reached some sort of maximum?

From: Throwe, Scott
Sent: Monday, February 29, 2016 12:15 PM
To: McClintock, Katie <McClintock.Katie@epa.gov>
Subject: RE: McClintock, Katie has shared 'Colored Glass'

Its saying access denied, do I have to be added to the share point access list?

Scott Throwe

U.S. EPA

Office of Enforcement and Compliance Assurance

Office of Compliance

Phone: 202-564-7013

From: McClintock, Katie
Sent: Monday, February 29, 2016 1:02 PM
To: Yellin, Patrick <Yellin.Patrick@epa.gov>; Throwe, Scott <Throwe.Scott@epa.gov>
Cc: McClintock, Katie <McClintock.Katie@epa.gov>
Subject: McClintock, Katie has shared 'Colored Glass'

Here's the folder that McClintock, Katie shared with you.

Go to [Colored Glass](#)

To: Doyle, Liz[Doyle.Liz@epa.gov]
From: McClintock, Katie
Sent: Tue 3/1/2016 1:07:44 AM
Subject: Re: Info on Specialty Glass Inc.

I'll look. Also found out name of two books:

Technical approach to glass manufacture by miloes vols and colored glass by wahl(sp?). Any chance we have access to either?

Sent from my iPhone

> On Feb 29, 2016, at 5:02 PM, Doyle, Liz <Doyle.Liz@epa.gov> wrote:

>

> Hi Katie,

> So far the sources I've checked aren't turning anything up. Historic company information is hard for me to come by. However, there are internal EPA databases containing administrative records for enforcement actions that as a contractor I do not have access to. I don't even know if this company was registered in Washington or in another state. While I'm checking what I can, I would suggest that you contact your office or unit records coordinator (if that's the right term). A search of old enforcement records might be VERY informative. At the very least, there should be some kind of index by company name within Region 10 records, right? Try that and I'll keep looking.

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> Liz Doyle, MILS

> Supervisory Librarian (contractor, ASRC Primus)

> U.S. EPA Region 10 Library / OMP-0102 / 1200 6th Ave, Ste 900

> Seattle WA 98101-3140

>

> doyle.liz@epa.gov

> p: 206-553-2134

> <http://www2.epa.gov/libraries/region-10-library-services>

>

> -----Original Message-----

> From: McClintock, Katie

> Sent: Sunday, February 28, 2016 1:33 PM

> To: Doyle, Liz <Doyle.Liz@epa.gov>

> Subject: Info on this

>

> This link stood out. I'm curious to learn more about where this plant was and when they shut down. Sounds like they did testing and had environmental issues similar to what we are seeing now. Thanks!

>

> http://pdf.wri.org/bell/case_1-56973-261-2_full_version_english.pdf

>

>

To: Bray, Dave[Bray.Dave@epa.gov]
From: McClintock, Katie
Sent: Mon 2/29/2016 8:22:08 PM
Subject: Re: Colored Glass Daily Update 2-26-16

Joy. This is one task is be happy to not be lead on.

Sent from my iPhone

> On Feb 29, 2016, at 12:19 PM, Bray, Dave <Bray.Dave@epa.gov> wrote:

>

> No, I have other things I need to be working on.

>

> I'll leave this in your very capable hands.

>

> Dave

>

> From: McClintock, Katie

> Sent: Monday, February 29, 2016 12:13 PM

> To: Bray, Dave

> Subject: Re: Colored Glass Daily Update 2-26-16

>

> We are having a preliminary mtg on the foil today at 1. I'll bring up. Would you like to join us? Just me, lawyers and foia ppl

>

> Sent from my iPhone

>

>> On Feb 29, 2016, at 12:10 PM, Bray, Dave <Bray.Dave@epa.gov> wrote:

>>

>> Hi Katie,

>>

>> A question re: the OPB FOIA.

>>

>> Given that there are now at least 1000 internal emails on this issue, is someone going to do an electronic search of the emails to compile them into a single file and eliminate all the duplicates?

>>

>> It doesn't seem reasonable to have each person upload all of the same emails to FOIA online and then have someone deal with it.

>>

>> Dave

>>

>> From: McClintock, Katie

>> Sent: Friday, February 26, 2016 9:33 PM

>> To: Averbach, Jonathan; Barber, Anthony; Barnett, Keith; Bray, Dave; Bremer, Kristen; Cunningham, Roylene; Dalrymple, Anne; Davis, Alison; Davis, Matthew; Doster, Brian; Downey, Scott; Fairchild, Susan; Field, Chris; Fleming, Sheila; Franklin, Richard; Fried, Gregory; Froikin, Sara; Hall, Chris; Hastings, Janis; Hedgpeth, Zach; Holsman, Marianne; Ingemansen, Dean; Johnson, Steffan; Kaetzel, Rhonda; Keenan, John; Koerber, Mike; Koprowski, Paul; Kowalski, Ed; Leefers, Kristin; Lynch, Kira; Martenson, Eric; Matthews, Julie; McLerran, Dennis; Mitchell, Ken; Moon, Wally; Narvaez, Madonna; Owens, Katharine; Page, Lee; Palma, Ted; Pirzadeh, Michelle; Rimer, Kelly; Rodman, Sonja; Smith, Judy; Stern, Allyn; Stewart, Michael; Stifelman, Marc; Taylor, Kevin; Terada, Calvin; Terry, Sara; Thrift, Mike; Tonel, Monica; Wendel, Arthur; Williamson, Ann; Wroble, Julie

>> Subject: Colored Glass Daily Update 2-26-16

>>

>> Here is the update and press for the day. Have a great weekend.

>>

>> Katie McClintock
>> Air Enforcement Officer
>> EPA Region 10
>> 1200 Sixth Avenue, Suite 900, OCE-101
>> Seattle, WA 98101
>> Phone: 206-553-2143
>> Fax: 206-553-4743
>> McClintock.katie@epa.gov
>>

To: Throwe, Scott[Throwe.Scott@epa.gov]; Yellin, Patrick[Yellin.Patrick@epa.gov]
From: McClintock, Katie
Sent: Mon 2/29/2016 6:03:24 PM
Subject: FW: Colored Glass Daily Update 2-26-16
[Daily Update 2-26-16.docx](#)
[Media Monitoring Report Metal Release 02.26.2016.docx](#)

From: McClintock, Katie

Sent: Friday, February 26, 2016 9:33 PM

To: Averbach, Jonathan <Averbach.Jonathan@epa.gov>; Barber, Anthony <Barber.Anthony@epa.gov>; Barnett, Keith <Barnett.Keith@epa.gov>; Bray, Dave <Bray.Dave@epa.gov>; Bremer, Kristen <Bremer.Kristen@epa.gov>; Cunningham, Roylene <Cunningham.Roylene@epa.gov>; Dalrymple, Anne <Dalrymple.Anne@epa.gov>; Davis, Alison <Davis.Alison@epa.gov>; Davis, Matthew <Davis.Matthew@epa.gov>; Doster, Brian <Doster.Brian@epa.gov>; Downey, Scott <Downey.Scott@epa.gov>; Fairchild, Susan <Fairchild.Susan@epa.gov>; Field, Chris <Field.Chris@epa.gov>; Fleming, Sheila <flaming.sheila@epa.gov>; Franklin, Richard <Franklin.Richard@epa.gov>; Fried, Gregory <Fried.Gregory@epa.gov>; Froikin, Sara <Froikin.Sara@epa.gov>; Hall, Chris <Hall.Christopher@epa.gov>; Hastings, Janis <Hastings.Janis@epa.gov>; Hedgpeth, Zach <Hedgpeth.Zach@epa.gov>; Holsman, Marianne <Holsman.Marianne@epa.gov>; Ingemansen, Dean <Ingemansen.Dean@epa.gov>; Johnson, Steffan <johnson.steffan@epa.gov>; Kaetzel, Rhonda <Kaetzel.Rhonda@epa.gov>; Keenan, John <keenan.john@epa.gov>; Koerber, Mike <Koerber.Mike@epa.gov>; Koprowski, Paul <Koprowski.Paul@epa.gov>; Kowalski, Ed <Kowalski.Edward@epa.gov>; Leefers, Kristin <Leefers.Kristin@epa.gov>; Lynch, Kira <lynch.kira@epa.gov>; Martenson, Eric <Martenson.Eric@epa.gov>; Matthews, Julie <Matthews.Juliane@epa.gov>; McLerran, Dennis <mclerran.dennis@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Moon, Wally <Moon.Wally@epa.gov>; Narvaez, Madonna <Narvaez.Madonna@epa.gov>; Owens, Katharine <Owens.Katharine@epa.gov>; Page, Lee <Page.Lee@epa.gov>; Palma, Ted <Palma.Ted@epa.gov>; Pirzadeh, Michelle <Pirzadeh.Michelle@epa.gov>; Rimer, Kelly <Rimer.Kelly@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Smith, Judy <Smith.Judy@epa.gov>; Stern, Allyn <Stern.Allyn@epa.gov>; Stewart, Michael <Stewart.Michael@epa.gov>; Stifelman, Marc <Stifelman.Marc@epa.gov>; Taylor, Kevin <Taylor.Kevin@epa.gov>; Terada, Calvin <Terada.Calvin@epa.gov>; Terry, Sara <Terry.Sara@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>; Tonel, Monica <Tonel.Monica@epa.gov>; Wendel, Arthur <Wendel.Arthur@epa.gov>; Williamson, Ann <Williamson.Ann@epa.gov>; Wroble, Julie <Wroble.Julie@epa.gov>

Subject: Colored Glass Daily Update 2-26-16

Here is the update and press for the day. Have a great weekend.

Katie McClintock

Air Enforcement Officer

EPA Region 10

1200 Sixth Avenue, Suite 900, OCE-101

Seattle, WA 98101

Phone: 206-553-2143

Fax: 206-553-4743

Mcclintock.katie@epa.gov

Media Monitoring Report – Metal Release

Social and Traditional Media

February 26, 2016

Good Morning –

This is a situation specific media monitoring report relating to the Portland metals release. This report contains both traditional and social media sources.

Danielle on behalf of the HSPR Team

Traditional Media

Political

- [How Bullseye Glass sought a key air pollution exemption -- and won](#) (Oregon Live)

Health

- [Portland's toxic air: Parents test 17-month-old, confused by results](#) (The Oregonian)
- [Portland's toxic air: Will young family have to leave home?](#) (The Oregonian)
- [Portland's toxic air: Longtime family worries but hopes for best](#) (The Oregonian)

Environment

- [Could Portland's bad air blow this way?](#) (The Columbian)

Opinion

- [State environmental agency has failed to safeguard Portland's air](#) (OPINION) (Oregon Live)

Related topics

- [Aircraft Engine Repair Station Employees Exposed to Hexavalent Chromium Hazards: OSHA](#) (Occupational Health & Safety)

Social Media

Online Groups – What they are discussing within the last 24 hours

- [Neighbors for Clean Air Facebook](#).
 - Comments:
 - [Tell Oregon Legislature: Don't throw good money into bad system!](#)
 - [Call @Governor Kate Brown - No more investment in a failed system!](#)
 - Some history on Oregon DEQ's policy of protecting polluters: "essentially they'd be asking EPA to break a national law to benefit the worst mercury polluter in the entire country, and to allow it to emit more than other

cement kilns," said James Pew, an attorney at Earthjustice who filed the suit that brought about the new rules. Link to 2009 Oregonian article:

[DEQ to help polluter seek federal break on mercury emission](#)

- The details of the Oregon Legislative budget for DEQ are less satisfying than the original splash of \$2.5M. It carves out a 12 person program to deal with 3 toxics! There is nothing that says the agency will deal with the diesel pollution that it knows is - by a far margin - the most deadly toxic in our air. Why do we keep throwing good public funds at a broken system? (You are able to expand the image to read it.)

The Subcommittee approved a \$2,500,000 General Fund appropriation to expand the Department's current Oregon Air Toxics Program. This will allow the immediate focus of increased air toxics monitoring efforts on cadmium, arsenic, and chromium hotspots in Portland, as well as, expand air toxics monitoring across the state. In addition, the increased funding will allow DEQ to develop a risk-based approach to air permitting for industrial sources through rulemaking. Over time this will allow DEQ to modify existing air permits to be risk-based. The air toxics monitoring funded through this appropriation uses moss collection and analysis to map pollution levels in Portland communities and develop maps of hot spots. This funding will allow the Department to purchase and set up two additional full air toxics monitoring stations that can be directed at areas with high levels of air toxics that are identified. A Natural Resources Specialist 3 position, three Natural Resources Specialist 2 positions, a Chemist 2 position, and a Chemist 3 position are added as permanent positions for the monitoring and analysis work. DEQ will also use the funding to develop, through rulemaking, an Oregon specific air toxics program that ensures industrial hotspots are sufficiently controlled. During this process, discussions with local governments about their potential roles and involvement, either formally or informally, may occur. To work on this part of the program, six permanent positions were added (Principal Executive Manager 1, Program Analyst 3, Natural Resources Specialist 4, Natural Resources Specialist 3, Operations and Policy Analyst 1, and Public Affairs Specialist 2). In all, 12 permanent positions (7.00 FTE) were added, with total Personal Services costs of \$1,266,789, Services and Supplies costs, including Professional Services, of \$883,211 and \$350,000 in Capital Outlay for monitoring equipment. This program is estimated to have a 2017-19 roll-up cost of \$3,626,239 General Fund.

-
- [Eastside Portland Air Coalition \(A.K.A Inner SE/NE Air Quality\) Facebook](#)
 - **Note: There is more conversation on the Fb page than what is listed here.**
 - **Comments:**
 - Mark Coleman photography: Feel free to share! I am working on a series of images telling our story and featuring neighbors telling our stories. Please PM me if you would like to participate. Could really use parents, families, kids, gardeners, people with health issues, etc.!

Ex. 6 - Personal Privacy

- Just rec'd the first of what will be multiple invoices for lab work for my 4 year old... And the day after receiving his high cadmium and elevated lead results -- just to rub a pile of salt all up in that wound. And, bonus! Insurance is not covering a dime. We have yet to test our infant, our soil, or ourselves-husband and I. Betcha we break 2 g's before this is said and done. This just gets awesomer and awesomer, you guys. Who needs a family vacation when you can have all kinds of lab work and heavy metals poisoning, RIGHT?

Charges	Insurance Pmts/Adls	Patient Pmts/Adls	Insurance Balance	Balance
Ex. 6 - Personal Privacy				
201.00				
201.00	0.00	0.00	0.00	201.00
				201.00
Balance Due				201.00

ent. Include the Guarantor Account ID on the memo line of your check.

www.ProvidenceOregon.org/paymybill

To Pay By Phone: Call Customer Service
Checks - Make Payable Providence Health & Services
Check any that apply and complete information on reverse.

☐ Address Change

PROVIDENCE
Health & Services

- Now the journalism is getting real. Link to [Oregonian article](#) above.
- Note that in addition to the great reporting it has been doing on Bullseye, [The Oregonian](#) also placed the result of its Bullseye file/communications record request online- something many of us have been pressing DEQ to do for weeks. Thank you [Rob Davis](#)! Referencing this [letter from Bullseye Glass from 2008](#).
- Let's pull back the curtain in The Greenest City, who really is DEQ? mentioned last night these five Governor appointed members who make the rules for DEQ. If DEQ is going to change, this is the level at which it needs to happen. While I would like local control of air quality in Portland, I don't want to lose site of our other Oregonians. People have been contacting this page from different cities with the same air quality problems. We need a complete government overhaul, not just throwing money at a corrupt system. The latest news from the Oregonian shows how endemic this corruption is, and this group is where that begins. Hello, Oz.
- I count 27 leadership employees on deq's org chart with 3 vacant positons estimating 2.5M annual for salary and benefits just for this group. Are they earning their keep making us safe?
- How's everyone doing tonight? This is where it gets hard... The adrenaline starts to calm and we realize that we're all still breathing toxics. Test results are coming back, and they are scary. We are seeing that we have already made some immediate impacts at the local, state and federal level, but we realize that we have far to go. We've accomplished a lot together and we will do much more! And we've done it by supporting one another. So: how are you tonight? What do you need from your neighbors? What are the next steps you want to see?
- It is shocking to discover but more and more clear everyday: Oregon is the most pollution friendly place in America. This article lays it out perfectly: we are home to the nation's the worst mercury polluting cement kiln and our DEQ actively fought the EPA to keep it that way! This Kansas owned company says "we locate plants where the limestone is" but that is clearly not true. The worst kiln in America is located in Oregon because of the Oregon DEQ!! It seems we have just about the worst (for human

beings and the environment) DEQ imaginable. Matthew Preusch writes: "All except two of the country's cement kilns use limestone with a mercury content of less than 200 parts per billion, according to the EPA. The limestone at Durkee shows levels of the toxin ranging from 450 to 2,700 parts per billion, according to the company. The next-closest plant, in California, uses limestone with an average mercury content of about half that. Link to 2009 Oregonian article: [DEQ to help polluter seek federal break on mercury emission](#)

- Folks - I have outlined some specific problems with the details of the DEQ budget proposal that is flying through the final hours of the 2016 session in Salem. People need to call their legislators and Governor TODAY to identify these problems. Let's make sure DEQ isn't allowed to address this crisis with the same old practices that created it!
- I was excited to find this when I came home today! Where did it come from?



- [South Portland Air Quality](#) Facebook

- **Comments:**

- So my husband spoke to Milwaukie Mayor Mark Gamba today. He's apparently a pretty progressive guy (former natgeo photographer). He strongly encouraged residents to come to the city council meeting this coming Tuesday, March 1 (it's in the city hall council chambers at 6pm) to voice questions and concerns about air pollution/air quality. It sounds like he wants to advocate on behalf of us but needs our voices at these city council meetings.

- [AirAdvocacy](#) Facebook

- **Comments:**

- Ex. 6 - Personal Privacy testifies in Salem <https://youtu.be/tZ8JYHeZ1Gg>
 - A neighbor's outdoor wood boiler turns into a nightmare for Ex. 6 - Personal Privacy
Ex. 6 - Personal Privacy She wins a big victory in the Court of Appeals – it's a victory for everyone who wants to breathe clean air. [Link](#).

Hashtags

- It does not yet appear that any one hashtag has been adopted for this issue.
 - Eastside Portland Air Coalition group is discussing the following options:
 - [#airmatters](#)

- #EPAC2016
- #EPAC
- #breathclean
- #cleanairpdx
- #cleanairmatters
- #filtrateorvacate
- #bagthatstack

To: Koprowski, Paul[Koprowski.Paul@epa.gov]
From: McClintock, Katie
Sent: Mon 2/29/2016 2:55:05 PM
Subject: Update

Have you heard from or on what has been happening with bullseye? I haven't talked to George or Dave since we were there Monday. I left messages Thursday and Friday.

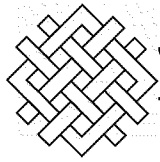
Katie

Sent from my iPhone

To: Doyle, Liz[Doyle.Liz@epa.gov]
From: McClintock, Katie
Sent: Sun 2/28/2016 9:32:52 PM
Subject: Info on this
[case_1-56973-261-2_full_version_english.pdf](#)
[ATT00001.txt](#)

This link stood out. I'm curious to learn more about where this plant was and when they shut down. Sounds like they did testing and had environmental issues similar to what we are seeing now. Thanks!

http://pdf.wri.org/bell/case_1-56973-261-2_full_version_english.pdf



**Specialty Glass, Inc.:
Cost Accounting and Hazardous Wastes**

Ex. 4 - copyright

This case was prepared by Dr. Christine H. Stinson, Associate Professor of Business Administration, Darden Graduate School of Business Administration, University of Virginia. The case is intended to serve as the basis for class discussion rather than as an illustration of effective or ineffective management strategies. It is based on material collected for Green Ledgers. Case Studies in Corporate Environmental Accounting a 1995 publication of the World Resources Institute (WRI), edited by Daryl Ditz, Janet Ranganathan, and R. Darryl Banks. Copyright © 1998 World Resources Institute.

Ex. 4 - copyright

Ex. 4 - copyright

Ex. 4 - copyright

To: Mitchell, Ken[Mitchell.Ken@epa.gov]
From: McClintock, Katie
Sent: Fri 2/26/2016 10:05:41 PM
Subject: RE: Art Glass -- clarifying question

Yes we think the main issue is companies that add metals as raw materials to make colored glass. I used different words than you because we have recently found that there are companies who melt premade glass and add metals to it. We are NOT focusing on glass blowers or others who melt premade glass. We are also not currently including every mom and pop shop that melts glass from raw materials (companies sell premade mixes). It is unlikely they have an ambient impact. OR is looking at all of them down to the teeny tiny but that isn't a focus nationally right now.

Let me know if you have further questions. BTW, I like the use of "opaque" when talking about a lack of clarity on a glass issue ;)

katie

-----Original Message-----

From: Mitchell, Ken
Sent: Friday, February 26, 2016 11:35 AM
To: McClintock, Katie <McClintock.Katie@epa.gov>; Bray, Dave <Bray.Dave@epa.gov>
Cc: Banister, Beverly <Banister.Beverly@epa.gov>; Russo, Todd <Russo.Todd@epa.gov>; Taylor, Kevin <Taylor.Kevin@epa.gov>; Spagg, Beverly <Spagg.Beverly@epa.gov>; Dubose, Dick <DuBose.Dick@epa.gov>; Page, Lee <Page.Lee@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>
Subject: Art Glass -- clarifying question

Yes....thank you. One other question...this was somewhat opaque to me during our discussion yesterday. In short, it sounds like to me that, very broadly speaking:

There are facilities that MAKE colored glass for use by others (e.g., Bullseye). It's these folks that MAKE colored glass that are the focus of our current investigation (i.e., these are the facilities on the list of facilities in Janet's memo from last night).

There are facilities that USE colored glass to make products (like stained glass windows, glassware, etc.). We are NOT currently focusing on the many facilities that buy colored glass and then USE it to make a product, even if they have to do some kind of heating or melting of that colored glass to make their product.

Is that correct?

Kenneth L. Mitchell, Ph.D. | Special Assistant to the Director | Air, Pesticides, and Toxics Management Division U.S. Environmental Protection Agency | 61 Forsyth Street, SW | Atlanta, GA 30303
Voice: 404-562-9065 | Fax: 404-562-9066 | Email: mitchell.ken@epa.gov Healthier Families, Cleaner Communities, A Stronger America

NOTICE: This communication may contain privileged or other confidential information. If you are not the intended recipient, or believe that you have received this communication in error, please do not print, copy, retransmit, disseminate, or otherwise use the information. Also, please indicate to the sender that you have received this communication in error, and delete the copy you received.

-----Original Message-----

From: Bray, Dave
Sent: Friday, February 26, 2016 2:24 PM
To: Mitchell, Ken <Mitchell.Ken@epa.gov>; McClintock, Katie <McClintock.Katie@epa.gov>
Cc: Banister, Beverly <Banister.Beverly@epa.gov>; Russo, Todd <Russo.Todd@epa.gov>; Taylor, Kevin <Taylor.Kevin@epa.gov>; Spagg, Beverly <Spagg.Beverly@epa.gov>

Subject: RE: McCarthy-Brown Follow-Up

Hi Ken,

Yes, Mark's note mischaracterizes two different things:

First, it is not glass "blowing" but rather glass manufacturing where colored glass is being made by adding raw metals into glass furnaces. We have no information that glass blowing or other glass melting operations are potential air toxics sources.

Second, the only area where there is current monitoring data that shows increased levels of air toxics near glass manufacturing operations is in Portland, OR. Yes, we suspect that there may be increased levels near other colored glass manufacturing facilities, but we don't currently have any information showing such.

Hope this helps.

Dave

From: Mitchell, Ken

Sent: Friday, February 26, 2016 11:02 AM

To: McClintock, Katie; Bray, Dave

Cc: Banister, Beverly; Russo, Todd; Taylor, Kevin; Spagg, Beverly; Mitchell, Ken

Subject: FW: McCarthy-Brown Follow-Up

Katie and Dave....In case you had not seen this (email below and attachment).

Also, Mark Rupp says in his note below to the RAs that "...the attached memo from Janet to ADDs notes several communities – ones that fall into your regions – where increased levels of air toxics are being seen related to glass blowing operations." (Emphasis added)

I'm not aware that we have any evidence that is the case. Can you please confirm that this should actually say "where increased levels of air toxics may be an issue"? Thanks.

Kenneth L. Mitchell, Ph.D. | Special Assistant to the Director | Air, Pesticides, and Toxics Management
Division U.S. Environmental Protection Agency | 61 Forsyth Street, SW | Atlanta, GA 30303

Voice: 404-562-9065 | Fax: 404-562-9066 | Email:
mitchell.ken@epa.gov<mailto:mitchell.ken@epa.gov>

Healthier Families, Cleaner Communities, A Stronger America

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Begin forwarded message:

From: "Rupp, Mark" <Rupp.Mark@epa.gov<mailto:Rupp.Mark@epa.gov>>

Date: February 26, 2016 at 12:34:38 PM CST

To: "McTeerToney, Heather"

<McTeerToney.Heather@epa.gov<mailto:McTeerToney.Heather@epa.gov>>, "Heard, Anne"

<Heard.Anne@epa.gov<mailto:Heard.Anne@epa.gov>>, "Kaplan, Robert"

<kaplan.robert@epa.gov<mailto:kaplan.robert@epa.gov>>, "Newton, Cheryl"

<Newton.Cheryl@epa.gov<mailto:Newton.Cheryl@epa.gov>>, "Enck, Judith"

<Enck.Judith@epa.gov<mailto:Enck.Judith@epa.gov>>, "McCabe, Catherine"
<McCabe.Catherine@epa.gov<mailto:McCabe.Catherine@epa.gov>>, "Blumenfeld, Jared"
<BLUMENFELD.JARED@EPA.GOV<mailto:BLUMENFELD.JARED@epa.gov>>, "Strauss, Alexis"
<Strauss.Alexis@epa.gov<mailto:Strauss.Alexis@epa.gov>>, "Garvin, Shawn"
<garvin.shawn@epa.gov<mailto:garvin.shawn@epa.gov>>, "Rodrigues, Cecil"
<rodrigues.cecil@epa.gov<mailto:rodrigues.cecil@epa.gov>>
Cc: "McLerran, Dennis" <mclerran.dennis@epa.gov<mailto:mclerran.dennis@epa.gov>>, "Pirzadeh, Michelle" <Pirzadeh.Michelle@epa.gov<mailto:Pirzadeh.Michelle@epa.gov>>, AO-ORO
<AOORO@epa.gov<mailto:AOORO@epa.gov>>

Subject: FW: McCarthy-Brown Follow-Up

RAs/DRAs from 2, 3, 4, 5 and 9. (And cc'ing 10.) Please find, attached, a letter that we just sent to the Governor of Oregon, in response to a matter the Governor raised with the Administrator during our Western Governors breakfast (and on which the two had a follow-up call on Wednesday).

I'm alerting you because the attached memo from Janet to ADDs notes several communities – ones that fall into your regions – where increased levels of air toxics are being seen related to glass blowing operations.

There is no intention of making any news of this – but know your PADs will get a statement that OAR is developing in the event questions come up.

Mark

From: Rupp, Mark
Sent: Friday, February 26, 2016 1:24 PM
Subject: McCarthy-Brown Follow-Up

Hey, Jan. Happy Friday!

Thanks for your help in setting up the earlier call with Administrator McCarthy and Governor Brown. Please find, attached, a letter in follow-up if you can get it to the Governor.

And to the rest of the Oregon crew, please don't hesitate reaching out to Dennis McLerran (cc'd) or me!

Thanks,
Mark

Mark W. Rupp
Deputy Associate Administrator for Intergovernmental Relations Office of Congressional and Intergovernmental Relations U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460
(202) 564-6074 (O)
(202) 596-0950 (C)

To: Elleman, Robert[Elleman.Robert@epa.gov]
From: McClintock, Katie
Sent: Fri 2/26/2016 8:08:51 PM
Subject: Re: Met station

Sounds good, thanks!

Sent from my iPhone

> On Feb 26, 2016, at 8:54 AM, Elleman, Robert <Elleman.Robert@epa.gov> wrote:

>

>

> Indeed, it was already on my list of things to do, even before the OPB article (which Chris Swab sent to me this morning, too) and your email. It will probably have to wait until next week since I'm booked on an interview panel for much of the day today.

>

> -----Original Message-----

> From: McClintock, Katie

> Sent: Friday, February 26, 2016 7:37 AM

> To: Elleman, Robert <Elleman.Robert@epa.gov>

> Subject: Met station

>

> I just read in an opb article that they have installed a met station near bullseye. Would you feel comfortable reaching out to Anthony or Chris to get a little more info and let me know if you think the data will be useful?

>

> Katie

>

> Sent from my iPhone

To: Cunningham, Roylene[Cunningham.Roylene@epa.gov]; Keenan, John[keenan.john@epa.gov]
From: McClintock, Katie
Sent: Fri 2/26/2016 4:19:18 PM
Subject: RE: hollingsworth and vose

There is no great urgency. Just figured it would be good to know slightly less than nothing in case the issue gets elevated.

I'm also curious to learn more about the railyard nearby or other or sources but not sure if that is something we should be doing. With the confusing met data and the recent opb article pointing the finger at Cd from locomotive exhaust, it made me curious to learn more. Ever glass facility so far is on the rail line (spectrum, uroboros, Northstar, bullseye).

katie

From: Cunningham, Roylene
Sent: Friday, February 26, 2016 8:12 AM
To: McClintock, Katie <McClintock.Katie@epa.gov>; Keenan, John <keenan.john@epa.gov>
Subject: Re: hollingsworth and vose

I could look into this next week. I'm not able to do this today.

From: McClintock, Katie
Sent: Thursday, February 25, 2016 9:13:46 PM
To: Keenan, John; Cunningham, Roylene
Subject: hollingsworth and vose

Citizens have asked if this source in OR could be emitting cadmium or other metals. Either of you want to poke around and learn more about them?

Katie McClintock

Air Enforcement Officer

EPA Region 10

1200 Sixth Avenue, Suite 900, OCE-101

Seattle, WA 98101

Phone: 206-553-2143

Fax: 206-553-4743

Mcclintock.katie@epa.gov

To: Elleman, Robert[Elleman.Robert@epa.gov]
From: McClintock, Katie
Sent: Fri 2/26/2016 3:36:48 PM
Subject: Met station

I just read in an opb article that they have installed a met station near bullseye. Would you feel comfortable reaching out to Anthony or Chris to get a little more info and let me know if you think the data will be useful?

Katie

Sent from my iPhone

To: Hastings, Janis[Hastings.Janis@epa.gov]
From: McClintock, Katie
Sent: Fri 2/26/2016 1:18:59 AM
Subject: Fwd: Emissions information for modeling

Spectrum and Steve have the following plan. I'll put more info in my update. Steve and I talked this afternoon.

Katie

Sent from my iPhone

Begin forwarded message:

From: Steve Van Slyke <SteveV@pscleanair.org>
Date: February 25, 2016 at 5:12:16 PM PST
To: "kyleb@spectrumglass.com" <kyleb@spectrumglass.com>
Cc: "Katie McClintock (mcclintock.katie@epa.gov)" <mcclintock.katie@epa.gov>, Carole Cenci <CaroleC@pscleanair.org>
Subject: RE: Emissions information for modeling

Kyle,

Thank you for talking with me regarding the information and analysis discussed below. I understand that you need to discuss this with others to identify the time it would take to provide us with the information we talked about. If you, your staff, or any others assisting you with this information have questions, please do not hesitate to contact me or Carole Cenci in our office (cc'd on this message). She manages our engineers and is aware of the information we are seeking. Based on our phone conversation today, I understand that you anticipate letting us know early next week when this information will be available to us.

Thanks,

Steve

Steve Van Slyke, P.E.
Interim Director of Compliance
Puget Sound Clean Air Agency
1904 3rd Ave., Suite 105

Seattle, WA 98101-3317

(206) 689-4052
(206) 343-7522 (fax)

SteveV@pscleanair.org

From: McClintock, Katie [<mailto:McClintock.Katie@epa.gov>]
Sent: Wednesday, February 24, 2016 9:42 PM
To: kyleb@spectrumglass.com; Steve Van Slyke
Subject: Emissions information for modeling

Kyle and Steve,

I am emailing both of you to start a dialogue about emissions information needed for modeling. Kyle, as I mentioned, Steve is with Puget Sound Clean Air Agency and his agency can require and do air toxics modeling. As I understand it they can also require companies to do more complicated dispersion modeling as well. However, at this point I think the first step is to get the annual usages of various metals. I know you have concerns about CBI but these total numbers are not cbi. I will work with my attorney to get a more complete answer regarding the CBI. Puget sound may have information they can provide as well. Also we can do the formal process of requesting the information through 114 and requiring you to substantiate your cbi claim and then making our own determination if we must. It takes time and I think we all understand that getting a handle on this information sooner rather than later is important.

You asked questions about what this modeling is and I will leave that to Steve (or his staff) to explain more as he sees fit. Generally modeling is a computer program that allows regulators to calculate/predict the effect of a source on the area surrounding it based on information like stack height, flow, and quantity of emissions. More complex dispersion models can look at more detailed information to build a more accurate profile. This information is a useful way for regulators to evaluate a source without ambient monitors and without having to wait for various weather patterns or operating conditions in order to understand potential emission effects.

Steve, do you (or the staff you assign to this) have any information to add? I was thinking I would use our process to get this information but I certainly would be fine if you all want to take the torch and start your process instead. I'm sure Kyle would be willing to work directly with you. He and I have been communicating regularly and he has been working to provide records diligently.

Katie McClintock

Air Enforcement Officer

EPA Region 10

1200 Sixth Avenue, Suite 900, OCE-101

Seattle, WA 98101

Phone: 206-553-2143

Fax: 206-553-4743

Mcclintock.katie@epa.gov

To: Hastings, Janis[Hastings.Janis@epa.gov]
From: McClintock, Katie
Sent: Fri 2/26/2016 12:59:37 AM
Subject: Re: Internal EPA memo - Portland glass facilities (from Janet McCabe)

Thanks Jan

Sent from my iPhone

On Feb 25, 2016, at 4:55 PM, Hastings, Janis <Hastings.Janis@epa.gov> wrote:

FYI

From: McCabe, Janet
Sent: Thursday, February 25, 2016 4:09 PM
To: Air Division Directors and Deputies
<Air_Division_Directors_and_Deputies@epa.gov>
Cc: Koerber, Mike <Koerber.Mike@epa.gov>; Page, Steve <Page.Steve@epa.gov>; Giles-AA, Cynthia <Giles-AA.Cynthia@epa.gov>; McLerran, Dennis
<mclerran.dennis@epa.gov>; Hastings, Janis <Hastings.Janis@epa.gov>; Stewart, Lori
<Stewart.Lori@epa.gov>; Goffman, Joseph <Goffman.Joseph@epa.gov>; Cyran, Carissa
<Cyran.Carissa@epa.gov>; Wortman, Eric <Wortman.Eric@epa.gov>
Subject: Portland glass facilities

Air Division Directors—

Attached is a memo in followup to the special purpose call OAQPS held yesterday about the glass facilities in Portland and beyond. Please contact Mike Koerber if you have any questions.

<Memo from Janet McCabe on Art Glass Manf. emissions feb25.pdf>

To: MONRO David[MONRO.David@deq.state.or.us]
From: McClintock, Katie
Sent: Fri 2/26/2016 12:32:08 AM
Subject: Any updates on bullseye?

Feel free to call if easier. I finally have a work iPhone 206-437-1476

Sent from my iPhone

To: Steve Van Slyke[SteveV@pscleanair.org]
From: McClintock, Katie
Sent: Thur 2/25/2016 11:36:04 PM
Subject: Spectrum data

I think we should ask for the modeling info from Spectrum through the normal channels. Are you comfortable moving ahead with that or would you like me to play a role? Call me at my new cell 206-437-1476 if you want to discuss.

Katie

Sent from my iPhone

To: Keenan, John[keenan.john@epa.gov]
Cc: Cunningham, Roylene[Cunningham.Roylene@epa.gov]; Dalrymple, Anne[Dalrymple.Anne@epa.gov]
From: McClintock, Katie
Sent: Thur 2/25/2016 9:54:52 PM
Subject: Re: McClintock, Katie has shared 'Color Glass'

On Johns suggestion I renamed it colored glass and broke the link

Sent from my iPhone

On Feb 25, 2016, at 1:53 PM, Keenan, John <keenan.john@epa.gov> wrote:

Yeah – the low level ref seems broken.

Delete this off the end of the URL: Color%20Glass

And it should get you to the sharepointthingie

John E. Keenan

U.S. EPA

Region 10 (OCE-101)

1200 Sixth Avenue - Ste 900

Seattle, WA 98101

206-553-1817

206-553-1762 (fax)

From: Cunningham, Roylene

Sent: Thursday, February 25, 2016 12:57 PM

To: McClintock, Katie <McClintock.Katie@epa.gov>; Keenan, John <keenan.john@epa.gov>; Dalrymple, Anne <Dalrymple.Anne@epa.gov>
Subject: RE: McClintock, Katie has shared 'Color Glass'

This didn't work for me . . . Anne/John – did it work for you?

From: McClintock, Katie
Sent: Wednesday, February 24, 2016 1:59 PM
To: Keenan, John <keenan.john@epa.gov>; Dalrymple, Anne <Dalrymple.Anne@epa.gov>; Cunningham, Roylene <Cunningham.Roylene@epa.gov>
Cc: McClintock, Katie <McClintock.Katie@epa.gov>
Subject: McClintock, Katie has shared 'Color Glass'

Here's the folder that McClintock, Katie shared with you.

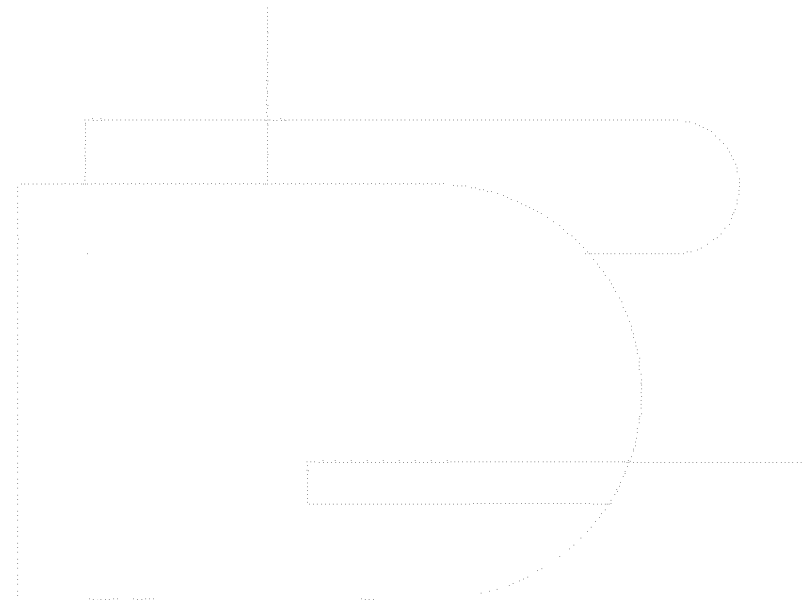
Go to [Color Glass](#)

To: Palma, Ted[Palma.Ted@epa.gov]; Stewart, Michael[Stewart.Michael@epa.gov]; Rimer, Kelly[Rimer.Kelly@epa.gov]
Cc: McClintock, Katie[McClintock.Katie@epa.gov]
From: McClintock, Katie
Sent: Thur 2/25/2016 6:45:04 PM
Subject: McClintock, Katie has shared 'Colored Glass'

Madonna Narvaez said you might like access to our colored glass info.
I also send a daily update email so please let me know if you would like to receive that.

Go to [Colored Glass](#)

To: Narvaez, Madonna[Narvaez.Madonna@epa.gov]; Wroble, Julie[Wroble.Julie@epa.gov]
From: McClintock, Katie
Sent: Thur 2/25/2016 6:41:44 PM
Subject: RE: I talked with Kelly Rimer this morning



Yes, I will add Kelly and if I haven't already I'll add ted and michael as well. I think I will sit it out probably but include me on the invite and don't work around my schedule. If I can listen in I will, if not, hopefully one of you can give me a summary afterwards.

From: Narvaez, Madonna
Sent: Thursday, February 25, 2016 10:40 AM
To: McClintock, Katie <McClintock.Katie@epa.gov>; Wroble, Julie <Wroble.Julie@epa.gov>
Subject: I talked with Kelly Rimer this morning
Importance: High

Kelly, the Air Toxics Group Leader (she has NATA and the risk modelers, I'm not sure of the actual name of the group) told me she has been asked to get up to speed on the Portland glass situation, to see what kind of risk modeling they could provide. Katie, could you please give her access to the OneDrive Colored Glass files?

They remain concerned about comparing the results of a month's worth of sampling to the chronic toxicity benchmarks. I've been saying the DEQ numbers are based on 70-year exposure, but I assumed that. The ambient benchmarks are an annual average. Julie, would you be available to have a call with Kelly's staff (Ted Palma and Michael Stewart) to discuss our regional screening levels, the DEQ screening levels, and the screening levels that OAQPS might want to use? I know that Paul K is really interested in that so I will invite him to the call. Katie, I don't know if you want to be on that call.

Julie, please let me know your availability next week. I can't do it Tuesday or Wednesday, so I'll be looking at Monday, Thursday, Friday. Thanks!

=====

Madonna Narvaez

Regional Air Toxics Coordinator

USEPA, Region 10

1200 Sixth Avenue, Ste 900

MC: AWT-150

phone: 206-553-2117

fax: 206-553-0110

narvaez.madonna@epa.gov

Follow @EPAnorthwest on Twitter! <https://twitter.com/EPAnorthwest>

To: Mitchell, Ken[Mitchell.Ken@epa.gov]
From: McClintock, Katie
Sent: Thur 2/25/2016 5:29:42 PM
Subject: RE: Information on Art Glass Manufacturers

Got you added to the onedrive and on the email list. The one drive has a bunch of technical stuff/press and facility stuff as well as my daily updates. Please feel free to add to this or send me what you are working on for daily updates if there are discoveries or news that others would be interested in.

From: Mitchell, Ken
Sent: Thursday, February 25, 2016 9:28 AM
To: McClintock, Katie <McClintock.Katie@epa.gov>
Subject: RE: Information on Art Glass Manufacturers

Yes....Kevin, Lee, and me. Thanks.

Kenneth L. Mitchell, Ph.D. | Special Assistant to the Director |
Air, Pesticides, and Toxics Management Division
U.S. Environmental Protection Agency | 61 Forsyth Street, SW | Atlanta, GA 30303
Voice: 404-562-9065 | Fax: 404-562-9066 | Email: mitchell.ken@epa.gov
Healthier Families, Cleaner Communities, A Stronger America

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From: McClintock, Katie
Sent: Thursday, February 25, 2016 12:27 PM
To: Mitchell, Ken <Mitchell.Ken@epa.gov>
Subject: RE: Information on Art Glass Manufacturers

I forgot to ask, would you all also like to get the daily updates/news clips emails (one per day)?

From: Mitchell, Ken
Sent: Thursday, February 25, 2016 9:24 AM
To: McClintock, Katie <McClintock.Katie@epa.gov>

Cc: Taylor, Kevin <Taylor.Kevin@epa.gov>; Spagg, Beverly <Spagg.Beverly@epa.gov>; Russo, Todd <Russo.Todd@epa.gov>; Dubose, Dick <DuBose.Dick@epa.gov>; Page, Lee <Page.Lee@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>
Subject: FW: Information on Art Glass Manufacturers

Katie....please see the note below and attached from Kevin Taylor on our staff. Hope you find it useful.

BTW....we did not get the email yesterday from Janet McCabe. Do you know if it was sent out?

Also...can you add Kevin Taylor, Lee Page, and me to the 1-drive for this effort? Thanks.

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From: Taylor, Kevin
Sent: Wednesday, February 24, 2016 4:27 PM
To: Mitchell, Ken <Mitchell.Ken@epa.gov>
Cc: Spagg, Beverly <Spagg.Beverly@epa.gov>; Russo, Todd <Russo.Todd@epa.gov>; Dubose, Dick <DuBose.Dick@epa.gov>
Subject: Information on Art Glass Manufacturers

Ken,

As a follow up to our conference call this morning on art glass manufacturing, this is some information that I found on the internet that may be useful to HQ in trying to locate other stain glass manufacturers. They may have this information already but, just in case, you may want to make them aware of it.

Ed Hoy's International states on their website that they are the largest North American art glass distributor. They also have a listing of some of the largest art glass manufacturers in the U.S., including Bullseye, Spectrum and Northstar (all of which were discussed on the conference call). However, there are no companies listed for the southeast.

<http://edhoy.com/art-glass-manufacturers/>

Attached is a pdf of the Sourcebook for the Stain Glass Association of America. Pages 86 to 103 of the pdf has a listing of members, associates and affiliates for the trade group. I did see Bullseye listed.

Sincerely,



Kevin I. Taylor

Environmental Engineer

U.S. EPA Region 4

Air Enforcement Section, 12th Floor

61 Forsyth Street, S.W.

Atlanta, Georgia 30303

(404) 562-9134

(404) 562-9163 (fax)

Email: taylor.kevin@epa.gov

To: Mitchell, Ken[Mitchell.Ken@epa.gov]
From: McClintock, Katie
Sent: Thur 2/25/2016 5:27:20 PM
Subject: RE: Information on Art Glass Manufacturers

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From: Mitchell, Ken
Sent: Thursday, February 25, 2016 9:24 AM
To: McClintock, Katie <McClintock.Katie@epa.gov>
Cc: Taylor, Kevin <Taylor.Kevin@epa.gov>; Spagg, Beverly <Spagg.Beverly@epa.gov>; Russo, Todd <Russo.Todd@epa.gov>; Dubose, Dick <DuBose.Dick@epa.gov>; Page, Lee <Page.Lee@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>
Subject: FW: Information on Art Glass Manufacturers

Katie....please see the note below and attached from Kevin Taylor on our staff. Hope you find it useful.

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Cc: Spagg, Beverly <Spagg.Beverly@epa.gov>; Russo, Todd <Russo.Todd@epa.gov>; Dubose, Dick <DuBose.Dick@epa.gov>

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Atlanta, Georgia 30303

(404) 562-9134

(404) 562-9163 (fax)

Email: taylor.kevin@epa.gov

To: Mitchell, Ken[Mitchell.Ken@epa.gov]
From: McClintock, Katie
Sent: Thur 2/25/2016 5:26:17 PM
Subject: RE: Information on Art Glass Manufacturers

Yes I will add them.

No I heard the email from Janet will go out today.

Thanks for the info.

Katie

From: Mitchell, Ken
Sent: Thursday, February 25, 2016 9:24 AM
To: McClintock, Katie <McClintock.Katie@epa.gov>
Cc: Taylor, Kevin <Taylor.Kevin@epa.gov>; Spagg, Beverly <Spagg.Beverly@epa.gov>; Russo, Todd <Russo.Todd@epa.gov>; Dubose, Dick <DuBose.Dick@epa.gov>; Page, Lee <Page.Lee@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>
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To: Mitchell, Ken <Mitchell.Ken@epa.gov>
Cc: Spagg, Beverly <Spagg.Beverly@epa.gov>; Russo, Todd <Russo.Todd@epa.gov>;
Dubose, Dick <DuBose.Dick@epa.gov>
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Kevin I. Taylor

Environmental Engineer

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Air Enforcement Section, 12th Floor

61 Forsyth Street, S.W.

Atlanta, Georgia 30303

(404) 562-9134

(404) 562-9163 (fax)

Email: taylor.kevin@epa.gov

To: MacIntyre, Mark[Macintyre.Mark@epa.gov]
From: McClintock, Katie
Sent: Thur 2/25/2016 6:42:49 AM
Subject: RE: No sign of Portland-like air pollution in Seattle - seattlepi.com

I didn't know that glassbaby's were made in seattle. No, but I'm gonna add it to my list. Thanks. There is also a largerish shop in Fremont that makes large glass tubes that are often flattened into sheets – Fremont Art Glass. Of course there are also a million craft glass blowing shops all over the country too.

Feel free to keep sending ideas. Thanks.

From: MacIntyre, Mark
Sent: Wednesday, February 24, 2016 10:41 PM
To: McClintock, Katie <McClintock.Katie@epa.gov>
Subject: Re: No sign of Portland-like air pollution in Seattle - seattlepi.com

Do you know is anyone has ever visited the GlassyBaby kiln & hotshop in Madrona to measure emissions?

Sent from my iPhone

On Feb 24, 2016, at 10:03 PM, McClintock, Katie <McClintock.Katie@epa.gov> wrote:

Thanks for sharing Mark. I'm surprised it took this long for press to pick it up here. It definitely tells a rosier picture than reality is since Spectrum does not have all of its glass production controlled with baghouses. I'll add this link to my daily update.

Katie

From: MacIntyre, Mark
Sent: Wednesday, February 24, 2016 10:00 PM
To: Holsman, Marianne <Holsman.Marianne@epa.gov>; Philip, Jeff <Philip.Jeff@epa.gov>; Smith, Judy <Smith.Judy@epa.gov>; Barber, Anthony <Barber.Anthony@epa.gov>; McClintock, Katie <McClintock.Katie@epa.gov>; Downey, Scott <Downey.Scott@epa.gov>

Subject: Fwd: No sign of Portland-like air pollution in Seattle - seattlepi.com

FYI only!!!

Sent from my iPhone

Begin forwarded message:

From: Mark MacIntyre <mmseattleite@yahoo.com>

Date: February 24, 2016 at 9:53:37 PM PST

To: Mark MacIntyre <macintyre.mark@epa.gov>

Subject: No sign of Portland-like air pollution in Seattle - seattlepi.com

<http://www.seattlepi.com/local/environment/article/No-sign-of-Portland-like-metal-air-pollution-in-6852591.php>

Sent from my iPad

To: Smith, Judy[Smith.Judy@epa.gov]
From: McClintock, Katie
Sent: Wed 2/24/2016 10:57:10 PM
Subject: FW: Spectrum statements
[removed.txt](#)

Also fyi.

From: Steve Van Slyke [mailto:SteveV@pscleanair.org]
Sent: Wednesday, February 24, 2016 10:37 AM
To: McClintock, Katie <McClintock.Katie@epa.gov>
Subject: FW: Spectrum statements

What Spectrum is saying:

Jufibblue - Julie Thornton shared Creative Glass Guild's post.

[February 11 at 1:13pm](#) ·

This is going on in the world of glass.



Creative Glass Guild

[February 11 at 8:20am](#) · [Bristol, United Kingdom](#) ·

Some of you may have seen the recent press regarding an environmental issue surrounding the art glass industry in the USA. We want to reassure our customers by sharing this statement from Spectrum, who are our main glass supplier:

"Recently, the subject of air quality around the Bullseye Glass factory, in Portland, Oregon,

received a lot of press, specifically as it related to arsenic and cadmium. So we thought we would share some facts about the manufacturing process employed here at Spectrum Glass Company, including all the steps we take to minimize any impact our production might have on our surrounding community in Woodinville.

First, arsenic is not a component in any of our products and we do not use any form of raw cadmium in our factory. The only form of cadmium used at Spectrum is a pre-melted, glassified cadmium that is added to make some of our products, namely red, orange and yellow glasses.

Even though this cadmium is in a glassified state when added as a colorant, our furnace baghouses do play an important role in capturing contaminants that may be related to this material. Due to the size of our furnaces, we use baghouse pollution control equipment to filter the exhaust coming from our furnaces. This equipment is checked at least once per day while in operation to ensure it's functioning properly. We also have baghouses that filter the air that is ventilated from our iridescent coating application process, and batch department, where product ingredients are combined prior to melting.

Spectrum is routinely evaluating our equipment and process modifications to reduce emissions, and are regularly subject to inspections by the Puget Sound Clean Air Agency. We are in full compliance with all Washington State environmental regulations, including our Puget Sound Clean Air Agency permit.

Out of an abundance of caution, however, we have contacted the Air Agency specifically to determine if there are any areas of our operation that we could improve. We hope that this information helps to answer questions you may have about any impact the materials produced at Spectrum Glass Company might have on our community here in Woodinville. Worker and community safety are our highest priorities."

<http://www.spectrumglass.com/stained-gl.../CleanAirEfforts.asp>

To: Bray, Dave[Bray.Dave@epa.gov]
From: McClintock, Katie
Sent: Wed 2/24/2016 5:32:03 PM
Subject: RE: does this look good for the 9am call?

Thanks dave.

-----Original Message-----

From: Bray, Dave
Sent: Wednesday, February 24, 2016 9:31 AM
To: McClintock, Katie <McClintock.Katie@epa.gov>
Subject: RE: does this look good for the 9am call?

Good job!

Dave

From: McClintock, Katie
Sent: Wednesday, February 24, 2016 8:50 AM
To: Hastings, Janis; Bray, Dave
Subject: does this look good for the 9am call?

- o Air studies: USFS moss study to find hot spots, state air monitoring, results
- o Types of sources, location of sources (near daycares/schools)
- o Public response
- o Discuss source of emissions in glass process (aka metals added for coloring the glass)
- o Discuss current knowledge of health concerns presented by arsenic, cadmium, and chromium
- o Reaction of the sources (voluntary suspension of use of arsenic, cadmium, chromium)
- o inspections (Bullseye, Uroboros, Spectrum, Northstar)
- o Internal agency responses/ongoing work
- § Understanding universe
- § Understanding emissions
- § Understanding controls
- § Looking at applicability of 6S

Katie McClintock
Air Enforcement Officer
EPA Region 10
1200 Sixth Avenue, Suite 900, OCE-101
Seattle, WA 98101
Phone: 206-553-2143
Fax: 206-553-4743
Mcclintock.katie@epa.gov

To: Terry, Sara[Terry.Sara@epa.gov]
From: McClintock, Katie
Sent: Wed 2/24/2016 4:29:27 PM
Subject: RE: Portland Air Toxics

There is a typo in the 3rd paragraph (send vs sent), but otherwise looks great.

From: Terry, Sara
Sent: Wednesday, February 24, 2016 8:24 AM
To: Koerber, Mike <Koerber.Mike@epa.gov>
Cc: Hastings, Janis <Hastings.Janis@epa.gov>; Fairchild, Susan <Fairchild.Susan@epa.gov>; Barnett, Keith <Barnett.Keith@epa.gov>; McClintock, Katie <McClintock.Katie@epa.gov>; South, Peter <South.Peter@epa.gov>
Subject: RE: Portland Air Toxics

Draft cover note attached for review and comment. Please send me any comments you have.

Sara

From: Koerber, Mike
Sent: Wednesday, February 24, 2016 10:44 AM
To: Terry, Sara <Terry.Sara@epa.gov>
Cc: Hastings, Janis <Hastings.Janis@epa.gov>; Fairchild, Susan <Fairchild.Susan@epa.gov>; Barnett, Keith <Barnett.Keith@epa.gov>; McClintock, Katie <McClintock.Katie@epa.gov>; South, Peter <South.Peter@epa.gov>
Subject: Re: Portland Air Toxics

Please prepare a short cover note with Janet's note.

Sent from my iPhone

On Feb 24, 2016, at 8:26 AM, Terry, Sara <Terry.Sara@epa.gov> wrote:

I should add that once this is cleared, I would envision a short cover note from Gina to the Governor expressing her commitment of continued support, either including this note as an attachment or simply pulling text directly into the Govs letter. Thoughts?

Sara

From: Terry, Sara
Sent: Wednesday, February 24, 2016 10:25 AM
To: Koerber, Mike <Koerber.Mike@epa.gov>; Hastings, Janis <Hastings.Janis@epa.gov>; Fairchild, Susan <Fairchild.Susan@epa.gov>; Barnett, Keith <Barnett.Keith@epa.gov>; McClintock, Katie <McClintock.Katie@epa.gov>
Cc: South, Peter <South.Peter@epa.gov>
Subject: RE: Portland Air Toxics
Importance: High

Hi all,

Here is my quick cut/paste etc. from existing materials. I'm not sure who else needs to review this, but I'm sure y'all can forward as needed. I'm not sure of the timing to get this reviewed and out the door. Mike, can you advise?

Thanks,

Sara

From: Koerber, Mike
Sent: Wednesday, February 24, 2016 8:45 AM
To: Terry, Sara <Terry.Sara@epa.gov>; Bremer, Kristen <Bremer.Kristen@epa.gov>; Davis, Alison <Davis.Alison@epa.gov>
Cc: Page, Steve <Page.Steve@epa.gov>; South, Peter <South.Peter@epa.gov>
Subject: Fwd: Portland Air Toxics

Sara - Can you take a stab at a draft? Let me know. Thanks.

Mike

Sent from my iPhone

Begin forwarded message:

From: "McCabe, Janet" <McCabe.Janet@epa.gov>

Date: February 23, 2016 at 7:28:10 PM MST

To: "McLerran, Dennis" <mclerran.dennis@epa.gov>, "Koerber, Mike" <Koerber.Mike@epa.gov>, "Hastings, Janis" <Hastings.Janis@epa.gov>, "Page, Steve" <Page.Steve@epa.gov>

Subject: RE: Portland Air Toxics

Hey there---

Dennis and I just talked. In addition to my hearing tomorrow, where I expect Senator Merkely to ask what we are doing to help Oregon with this, I also sat in on the call the Administrator had with Gov Brown this afternoon, and Mike K put some work into an outline of activities related to this. So lots going on. Here's what Dennis and I thought made sense going forward.

The Governor made it clear that she would like EPA to take some of the pressure off Oregon by identifying other similar facilities around the country and saying what we are doing with respect to this issue nationally. She also asked for specific help for OR, including technical assistance on how facilities can control these toxics, how to do stack testing, etc., and she also said she is looking for financial assistance to help with their AQ monitoring. The Administrator is definitely looking for us to do something to raise this issue up so it is not just an Oregon focused issue. So I suggest we do the following:

1) I send a memo to the ADDs, copying OECA, the RAs and the DRAs, that does the following:

--makes sure they are aware of the situation in Portland (noting the 2/24 special purpose call)

--gives a short summary of the background in Portland and what Region 10 has been doing to provide assistance to ODEQ

--explains what HQ has been doing (supporting R10, identifying any other sources around the country and starting to gather information on them, consulting with OECA about the applicability of current national rules, looking to see what resources we may have to support monitoring, etc)

--asks the regions for the following:

***provide any information they currently have about the sources we've identified

***communicate with their states so that they know what's going on with these sources in OR and offer assistance

***ask if any of the regions has special expertise in this type of facility or control of these types of pollutants

***ask their states to provide whatever information they have about these sources

***what else?

--explains other steps HQ plans to take going forward (see Mike's outline below. We may not want to include every last item, but it's a robust list)

2) prepare a note that the Administrator can send to Gov Brown explaining how we are following up on her requests. Eg. It could include my memo, as well as description of the technical assistance R10 is providing and will be providing (and HQ too), and a statement that we are looking for sources of funds that can be used to support monitoring activities.

Let me know if you think this is workable. Mike, I know you are in Phoenix for the next two days, but hopefully there's someone at OAQPS who can work on this tomorrow (if Debbie can help, please let me know). Dennis said R10 could provide text on their situation to slot into the memo. We should strive to have a good draft of this by the end of the day tomorrow so we can finalize on Thursday.

Lastly, copied below is the outline Mike sent me earlier today:

Here is an draft overview of Headquarters' activities. Comments from others in OAQPS are welcome.

Regional/State Outreach

1. Reach out to Regions with art glass plants to review Portland situation and to understand other Regions' perspectives (special purpose call on Feb 24)

* ask Regions to talk with affected states

* get information on other plant (e.g., permit limits, pollution controls, etc)

Source Characterization

1. Work with R10 on source testing (AQAD) 2. Discuss 114 letters in R10 and possibly other Regions (OECA, OGC) 3. Develop emission estimates for art glass plants (AQAD, SPPD)

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1. Determine applicability of current standards (OGC, OECA, SPPD) 2. Assess need for revised/new standards (SPPD)

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* reimburse ODEQ for Portland monitoring

* conduct new monitoring around other plants 4. Provide technical assistance to ODEQ, as appropriate 5. Address questions re: health impacts of air toxics levels (HEID)

-----Original Message-----

From: McLerran, Dennis

Sent: Tuesday, February 23, 2016 9:02 PM

To: Hastings, Janis <Hastings.Janis@epa.gov>

Cc: McCabe, Janet <McCabe.Janet@epa.gov>; Koerber, Mike <Koerber.Mike@epa.gov>; Pirzadeh, Michelle <Pirzadeh.Michelle@epa.gov>;

Holsman, Marianne <Holsman.Marianne@epa.gov>; Kowalski, Ed <Kowalski.Edward@epa.gov>

Subject: Portland Air Toxics

Jan:

Could you please send a paragraph summarizing all of the activities we are conducting to support Oregon on the Portland Air toxics issue? Janet McCabe is testifying before a Senate committee tomorrow and Mike Koerber is working on materials for an Air Directors call later in the week that this can be used for. Perhaps you can build off the summaries Katie McClintock has been providing. Please get this off to Janet and Mike as early as possible on Wednesday. Thanks!

Dennis

Sent from my EPA iPhone

To: Terry, Sara[Terry.Sara@epa.gov]
Cc: Hastings, Janis[Hastings.Janis@epa.gov]
From: McClintock, Katie
Sent: Wed 2/24/2016 3:57:35 PM
Subject: FW: Portland Air Toxics
McCabe memo to RAs 02 24 16 (00000002) km edits.docx

Jan asked me to make the changes she forwarded you from me and Wally and offer any other support if you need it since she is in a training and can't edit the document.

Katie

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Holsman, Marianne <Holsman.Marianne@epa.gov>; Kowalski, Ed <Kowalski.Edward@epa.gov>

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Dennis

Sent from my EPA iPhone

From: Janet McCabe
To: Regional Air Division Directors
CC: OECA, Regional Administrators, Deputy Regional Administrators
Re: Art Glass Manufacturing

I am writing to make you aware of an air toxics situation that has been taking place in Region 10 and ask your assistance as we work to understand the national implications of this situation. In this letter I am summarizing the situational background as well as the ways in which EPA is supporting Oregon to respond. My hope is that you were able to attend today's special purpose call so have a good understanding of the situation on the ground in Portland. My specific asks of you moving forward are:

1. Provide any information you currently have about the sources we've identified (attached), and if you are aware of any additional art (or colored) glass manufacturing facilities not on this list.
2. Communicate with your states to:
 - a. Ensure they are aware of the issues associated with these sources in Oregon
 - b. Offer your assistance in determining whether there are similar emissions of concern associated with these sources
 - c. Request your states to provide any information they have about these sources
3. Let me know if your Region has special expertise in this type of facility or control of these types of pollutants

Background

The U.S. Forest Service (USFS), in a pilot study, found moss collected from trees around art glass manufacturers in the Portland area—and Bullseye Glass in particular—had much higher concentrations of heavy metals than other areas in the city. This result prompted Oregon Department of Environmental Quality (ORDEQ) to set up air monitoring systems near the company to collect 24-hour air samples every few days over a 30-day period in October 2015.

In early February, ORDEQ made publicly available the results of that air monitoring, which showed high levels of cadmium and arsenic in the air and began investigating potential sources. Preliminary work suggests that the metals found in the monitoring were coming in large part from Bullseye Glass, an art glass manufacturing facility. Elevated cadmium levels were also found in proximity to another Portland glass manufacturer, Uroboros Glass. Both companies have suspended the use of chromium, cadmium and arsenic.

The EPA has identified 14 other similar facilities, which like Bullseye and Uroboros, may manufacture art glass and may use raw metals in their processes. There is a glass manufacturing NESHAP (Subpart SSSSSS) for area sources, though this rule applies to facilities that use continuous furnaces and produce more than 50 tons of glass per year using raw minerals. Based on the information we have, facilities such as Bullseye and perhaps others, do not meet the applicability requirements for this NESHAP.

EPA Assistance

The EPA has been fully engaged to support Oregon and others as this situation has developed, including supporting efforts to identify all art glass producers that might have similar issues and all other sources of metals emissions in Oregon.

In Region 10:

- Staff and management are working closely with state partners to provide significant assistance to the Oregon Department of Environmental Quality (ORDEQ) and the Oregon Health Authority (OHA). Oregon has set up an incident command structure for managing this issue, and the Region 10 Operations Office is part of the team, helping to coordinate EPA's assistance as a part of the state's ongoing work.
- EPA Region 10's focus has been on supporting Oregon to work directly with impacted facilities and to provide assistance in the development of air and soil sampling programs. Two weeks ago, EPA Region 10 enforcement staff, including an expert on glass manufacturing facilities, conducted a joint inspections with ORDEQ of Bullseye Glass Company and inspection of Uroboros Glass. EPA subsequently inspected Spectrum Glass in Washington state and a joint inspection with ODEQ of Northstar Glassworks in Portland. The EPA's engineers and technical specialists from across the country¹ have participated in subsequent technical meetings with ODEQ and Bullseye Glass to provide guidance on analytical methods to characterize the sources and information on technologies available to control emissions from glass manufacturing facilities. We have supported Oregon in their actions to secure agreements from the companies to stop using the compounds that are associated with the toxic emissions found in the air monitoring until other solutions can be developed.
- For the assessment of impacts, EPA Region 10 loaned air monitoring equipment and provided supplies to ODEQ for collection of air samples to analyze for heavy metals. The EPA also loaned ODEQ equipment to analyze soil samples and offered access to one of the EPA's science and technical assistance contractors. The EPA air and cleanup staff have offered assistance in the development of air and soil sampling programs. The EPA risk assessors are working with the OHA, Multnomah County Health Department, and the Agency for Toxic Substances and Disease Registry (ATSDR) to help assess and communicate the public health risks using the limited data currently available and will refine the assessment as more information becomes available on concentrations of metals in the air and soil.

At Headquarters:

- Relevant experts from the Office of Air and Radiation (OAR) and Office of Research and Development (ORD) are providing technical support to Region 10 on source testing, health impacts of air toxics levels and other monitoring and impacts issues as they arise.
- The Office of Enforcement and Compliance Assistance (OECA) and the Office of General Counsel (OGC) are investigating the applicability of Part 63 SSSSSS to these and similar facilities nationally. OECA and Region 10 have also discussed potential use of authority under Clean Air Act Section 114 to request additional information from facilities nationwide.
- Office of Air Quality Planning and Standards (OAQPS) is working to develop emission estimates for art glass manufacturing facilities and, in collaboration with OGC and OECA, determining both the applicability of the current standards to these facilities and the need for new or revised standards.
- The OAQPS and ORD are collaborating to assess the viability of the original USFS study as a screening

¹ We added experts to our team from Region 7, which has worked extensively with the development of the Wool Fiberglass Rule to determine and address hexavalent chromium emissions in EJ neighborhoods. Also, OAQPS' Measurement Technology Group is providing guidance and information on hexavalent chromium methods. The National Risk Management Laboratory provided background materials on chromium reactions at high temperatures.

methodology for air toxics and review screening modeling by state of Washington. This will help determine whether this modeling can be applied to other art glass manufacturing facilities.

- The OAQPS is also considering the feasibility of using the Community Scale Air Toxics Ambient Monitoring funds (FY16) to reimburse ODEQ for Portland monitoring and conduct new monitoring around other plants.

To: Hastings, Janis[Hastings.Janis@epa.gov]
From: McClintock, Katie
Sent: Wed 2/24/2016 3:24:48 PM
Subject: RE: ASAP - your input: EPA activities to support Oregon on Portland air toxics

I think OAQPS might have been more involved in the air sampling program, at least I think I heard that from OR. Also if we want to be nitpicky, OR did not go on our Uroboros inspection (so technically only bullseye was a joint inspection). They were invited but didn't end up being able to come.

From: Hastings, Janis
Sent: Wednesday, February 24, 2016 7:06 AM
To: Wroble, Julie <Wroble.Julie@epa.gov>; Narvaez, Madonna <Narvaez.Madonna@epa.gov>; Moon, Wally <Moon.Wally@epa.gov>; Koprowski, Paul <Koprowski.Paul@epa.gov>; McClintock, Katie <McClintock.Katie@epa.gov>; Hall, Chris <Hall.Christopher@epa.gov>
Cc: Holsman, Marianne <Holsman.Marianne@epa.gov>; Bray, Dave <Bray.Dave@epa.gov>
Subject: RE: ASAP - your input: EPA activities to support Oregon on Portland air toxics

Thanks--this is what I'm looking for, a close look!

Jan

From: Moon, Wally <moon.wally@epa.gov>
Sent: Wednesday, February 24, 2016 6:46 AM
Subject: RE: ASAP - your input: EPA activities to support Oregon on Portland air toxics
To: Wroble, Julie <wroble.julie@epa.gov>, Hastings, Janis <hastings.janis@epa.gov>, Narvaez, Madonna <narvaez.madonna@epa.gov>, Koprowski, Paul <koprowski.paul@epa.gov>, McClintock, Katie <mcclintock.katie@epa.gov>, Hall, Chris <hall.christopher@epa.gov>
Cc: Holsman, Marianne <holsman.marianne@epa.gov>, Bray, Dave <bray.dave@epa.gov>

Just one minor comment. There are 2 places in the document where it states EPA has assisted in the "development of air and soil sampling programs."

EMP has loaned equipment for ODEQ's air and soil sampling. I think it's a stretch to say that

we have assisted in the development of the soil sampling program. Not sure what others have done to assist in the development of the air sampling program.

My 2 cents. Thanks.

Wally Moon | Manager

U.S. Environmental Protection Agency | Region 10

Office of Environmental Cleanup – Emergency Management Program

Emergency Preparedness and Prevention Unit

p: [206.553.6323](tel:206.553.6323) | c: [206.419.2682](tel:206.419.2682) | moon.wally@epa.gov

From: McClintock, Katie

Sent: Tuesday, February 23, 2016 8:28 PM

To: Hastings, Janis <Hastings.Janis@epa.gov>; Narvaez, Madonna <Narvaez.Madonna@epa.gov>; Koprowski, Paul <Koprowski.Paul@epa.gov>; Wroble, Julie <Wroble.Julie@epa.gov>; Hall, Chris <Hall.Christopher@epa.gov>; Moon, Wally <Moon.Wally@epa.gov>

Cc: Bray, Dave <Bray.Dave@epa.gov>; Holsman, Marianne <Holsman.Marianne@epa.gov>

Subject: RE: ASAP - your input: EPA activities to support Oregon on Portland air toxics

This looks like a great 10,000 foot summary to me. The only thing I might add is that EPA has been supporting DEQ in its efforts to identify all glass producers that might have similar issues in OR and nationwide (outside of the big ones we already found) and all metals sources in Oregon. As you'll see in my headline today, Northstart Glassworks is definitely going to be needing more attention as well as 3 others that we didn't inspect today (Trautman, TAG and Glass Alchemy). Thanks for compiling such a great summary.

Katie

From: Hastings, Janis

Sent: Tuesday, February 23, 2016 8:19 PM

To: McClintock, Katie <McClintock.Katie@epa.gov>; Narvaez, Madonna <Narvaez.Madonna@epa.gov>; Koprowski, Paul <Koprowski.Paul@epa.gov>; Wroble, Julie <Wroble.Julie@epa.gov>; Hall, Chris <Hall.Christopher@epa.gov>; Moon, Wally <Moon.Wally@epa.gov>

Cc: Bray, Dave <Bray.Dave@epa.gov>; Holsman, Marianne <Holsman.Marianne@epa.gov>

Subject: ASAP - your input: EPA activities to support Oregon on Portland air toxics

Importance: High

Hi, R10 team: We've been asked to compile as early as possible on Wed (2/23) a paragraph summarizing all of the activities we are conducting to support Oregon on the Portland Air toxics issue. Do you have any additions, corrections? Feel free to just send a few sentences if I've left something out, or if you have more specific information. HQ will fill in the HQ-focused parts. Thanks to Madonna, we were able to put something together quickly.

Jan

To: DAVIS George[DAVIS.George@deq.state.or.us]
From: McClintock, Katie
Sent: Wed 2/24/2016 5:24:00 AM
Subject: FW: Questions about chromium III reactions
[Linak etal96.pdf](#)

Some heavy (but good) reading on hex chrome and its formation at high temperatures. Looks like burning chrome trioxide at super high temperatures did not create much hex chrome. Bullseye I think is looking at Cr_2O_3 , but still could be useful. Let me know if you have any specific questions you want me to pass along or you can of course reach out to the experts in this email chain as well.

Was nice to see you yesterday. Let me know if I can be of help in any way.

Katie

From: Narvaez, Madonna
Sent: Tuesday, February 23, 2016 12:05 PM
To: McClintock, Katie <McClintock.Katie@epa.gov>
Cc: Johnson, Steffan <johnson.steffan@epa.gov>; Fairchild, Susan <Fairchild.Susan@epa.gov>
Subject: FW: Questions about chromium III reactions
Importance: High

Here is work that the National Risk Management Lab did on chromium reactions at high temperatures. It is possible they may be able to do calculations for higher temperatures.

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Sent: Tuesday, February 23, 2016 10:51 AM
To: Nunez, Carlos <Nunez.Carlos@epa.gov>
Cc: McKinney, Doug <Mckinney.Douglas@epa.gov>
Subject: Fw: Questions about chromium III reactions

FYI - we are working on this

Dr. Jacky Ann Rosati Rowe
Chief, Air Pollution Technology Branch (APTB)
National Risk Management Research Lab
Air Pollution Protection and Control Division
109 TW Alexander Drive, E305-01
Research Triangle Park, NC 27711
Phone 919.541.9429
Blackberry 919.597-9831
Fax 919.541.0554
rosati.jacky@epa.gov

From: Linak, Bill
Sent: Tuesday, February 23, 2016 1:49 PM
To: Lee, Chun-Wai; Rosati, Jacky
Subject: RE: Questions about chromium III reactions

CW, Jacky:

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To: Linak, Bill <Linak.Bill@epa.gov>
Subject: FW: Questions about chromium III reactions

The request from R10.

CW

From: Rosati, Jacky
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To: Lee, Chun-Wai <Lee.Chun-Wai@epa.gov>
Subject: Fwd: Questions about chromium III reactions

Can you help Rohit?

Sent from my iPhone

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From: "Nunez, Carlos" <Nunez.Carlos@epa.gov>
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To: "Rosati, Jacky" <Rosati.Jacky@epa.gov>
Cc: "McKinney, Doug" <Mckinney.Douglas@epa.gov>
Subject: Fwd: Questions about chromium III reactions

Jacky

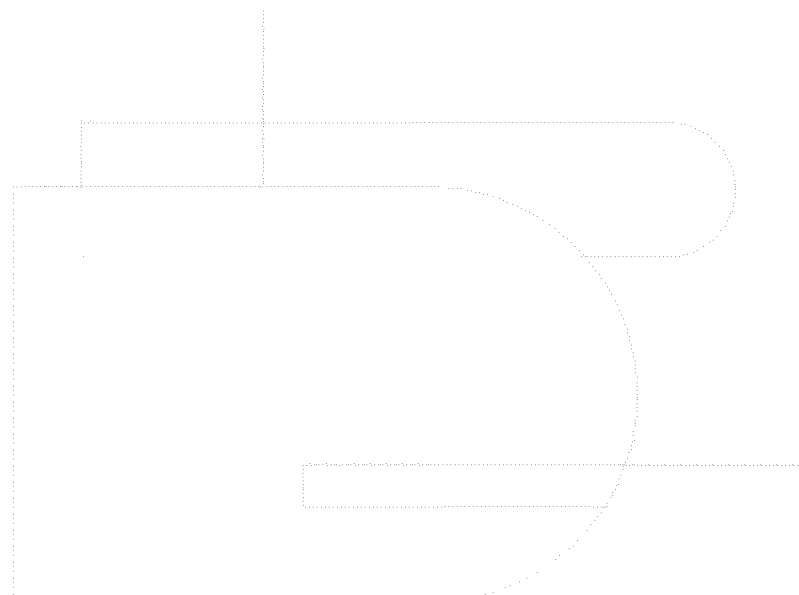
Is anyone in your branch with experience/knowledge on combustion chemistry of Cr? You can respond directly to Rohit.

Thanks!

Sent from my iPhone

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From: "Mathur, Rohit" <Mathur.Rohit@epa.gov>
Date: February 22, 2016 at 5:42:50 PM EST
To: "Nunez, Carlos" <Nunez.Carlos@epa.gov>
Cc: "Stanek, Lindsay" <Stanek.Lindsay@epa.gov>
Subject: FW: Questions about chromium III reactions



Hi Carlos:

I received the query below. Does anyone in NRMRL work on Cr and combustion chemistry who could help?

Thanks, Rohit

From: Mathur, Rohit

Sent: Monday, February 22, 2016 5:40 PM

To: Narvaez, Madonna <Narvaez.Madonna@epa.gov>

Subject: RE: Questions about chromium III reactions

Hello Madonna:

Thank you for reaching out to us with your question on Cr. Though we have modeled Cr3 and 6 air concentrations, we have essentially treated them as inert tracers in the atmosphere. I and colleagues in my Division am not familiar with the combustion chemistry at 2800 deg C. perhaps a person more familiar with characterizing Cr emissions may know – I'll check with a few colleagues to see if they have any suggestions. You are probably already familiar with the following:

<http://www3.epa.gov/airtoxics/hlthef/chromium.html>

Also, there is some literature on atmospheric chemical pathways for Cr (see for example):

<http://pubs.acs.org/doi/pdf/10.1021/es00001a029>

Will let you know if I find anything else.

Rohit

From: Narvaez, Madonna
Sent: Monday, February 22, 2016 12:22 PM
To: Mathur, Rohit <Mathur.Rohit@epa.gov>
Subject: Questions about chromium III reactions
Importance: High

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=====

Madonna Narvaez

Regional Air Toxics Coordinator

USEPA, Region 10

1200 Sixth Avenue, Ste 900

MC: AWT-150

phone: 206-553-2117

fax: 206-553-0110

narvaez.madonna@epa.gov

Follow @EPAnorthwest on Twitter! <https://twitter.com/EPAnorthwest>

To: Narvaez, Madonna[Narvaez.Madonna@epa.gov]
From: McClintock, Katie
Sent: Wed 2/24/2016 5:19:42 AM
Subject: RE: Questions about chromium III reactions

Oh and I put all the papers mentioned in this thread on the onedrive if you are ever looking for them later.

From: Narvaez, Madonna
Sent: Tuesday, February 23, 2016 12:05 PM
To: McClintock, Katie <McClintock.Katie@epa.gov>
Cc: Johnson, Steffan <johnson.steffan@epa.gov>; Fairchild, Susan <Fairchild.Susan@epa.gov>
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FYI - we are working on this

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Jacky

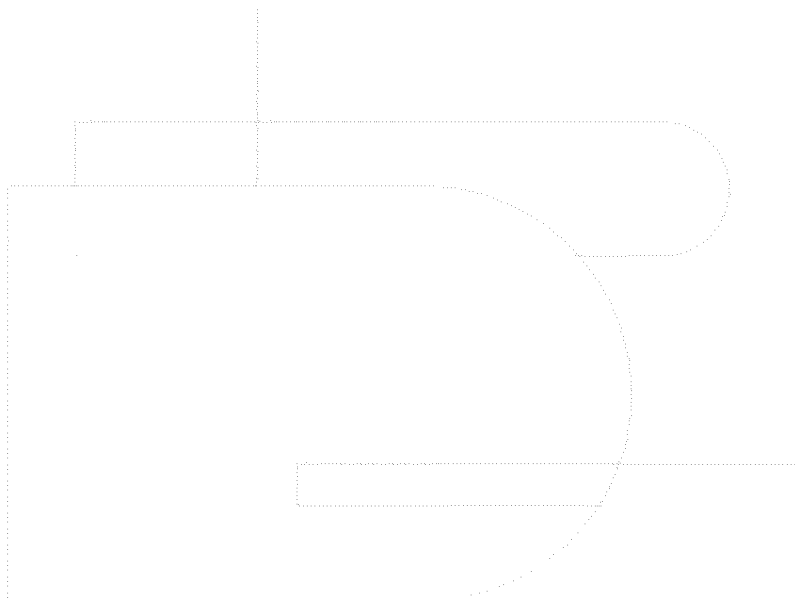
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Also, there is some literature on atmospheric chemical pathways for Cr (see for example):

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Will let you know if I find anything else.

Rohit

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To: Mathur, Rohit <Mathur.Rohit@epa.gov>

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To: Narvaez, Madonna[Narvaez.Madonna@epa.gov]
From: McClintock, Katie
Sent: Wed 2/24/2016 5:19:14 AM
Subject: RE: Questions about chromium III reactions

This is great. FYI, 2800 c is probably sufficient here. We talk about peak 2800 F in glass furnaces. However, Bullseye says they run no higher than 2500. The max temp reviewed here was 1900 c which is 3452 F so it should be representative. I am going to pass this along to George Davis in DEQ for now and will look forward to any other data. Thanks for chasing this down!

Katie

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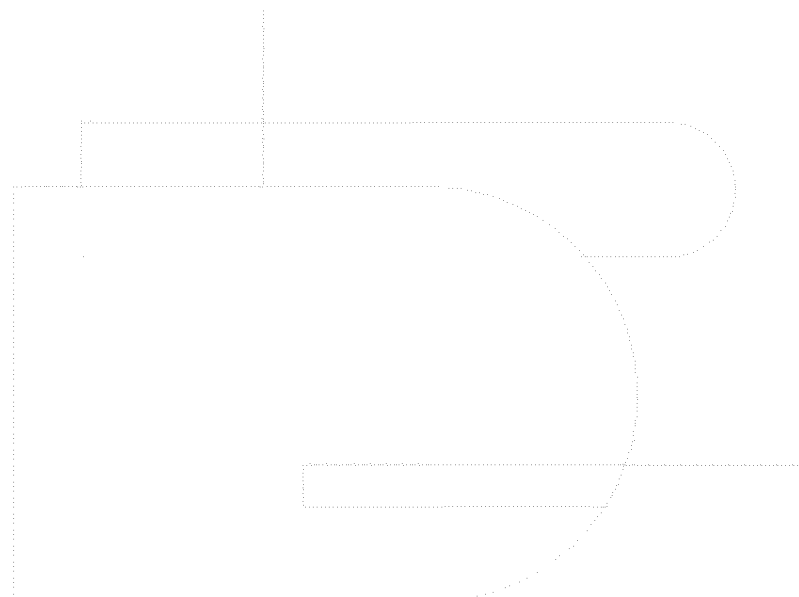
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fax: 206-553-0110

narvaez.madonna@epa.gov

Follow @EPAnorthwest on Twitter! <https://twitter.com/EPAnorthwest>

To: Hastings, Janis[Hastings.Janis@epa.gov]
From: McClintock, Katie
Sent: Wed 2/24/2016 5:05:27 AM
Subject: RE: PSCAA

Actually, disregard my previous email. I forgot to check my voicemail from when I was out today and I had one from Steve van Slyke.

He wants to ask Spectrum for their total metals usages for a year so he can model it. I haven't talked to him yet but I asked Spectrum for it tonight to get that going as quick as possible and advised them the info would not be CBI so we could share it with the state/locals.

Steve asked him that I call him to discuss so I think me calling him might be best for today (especially given his tone). It sounds like he has a sense of urgency now and was concerned that he didn't want to wait until we compiled more comprehensive data (we like to verify the source rather than using just company estimates) in order to start his modeling. I think it is a good sign that they feel this urgency and I will do my best to support it and keep you posted.

Do you want me to bring up the monitor at this point? Was there anything else you wanted to talk to him about?

Katie

From: Hastings, Janis
Sent: Tuesday, February 23, 2016 8:50 PM
To: McClintock, Katie <McClintock.Katie@epa.gov>
Subject: PSCAA

I was planning to call Steve vanSylke tomorrow morning to hear the latest from them. Let me know however if that's duplicating your conversations.

Thanks,

Jan

To: Eric Lovell[eric@uroboros.com]
From: McClintock, Katie
Sent: Tue 2/23/2016 11:56:25 PM
Subject: RE: Uroboros response to request for information

Eric,

I apologize. Our inspection ran late and then my phone wasn't working so I couldn't reach you. I'm back in Seattle. If you don't mind mailing them it would be great. Sorry for the extra hustle this morning.

Katie McClintock

Air Enforcement Officer

EPA Region 10

1200 Sixth Avenue, Suite 900, OCE-101

Seattle, WA 98101

Phone: 206-553-2143

Fax: 206-553-4743

Mcclintock.katie@epa.gov

From: Eric Lovell [mailto:eric@uroboros.com]
Sent: Tuesday, February 23, 2016 8:44 AM
To: McClintock, Katie <McClintock.Katie@epa.gov>
Subject: RE: Uroboros response to request for information

OK, great. 10:30 to 12 will work fine for a pick-up, thank you. We are just stamping all pages with the confidentiality mark now. If you could give me a closer time for your arrival it would be helpful.

Eric

From: McClintock, Katie [<mailto:McClintock.Katie@epa.gov>]
Sent: Monday, February 22, 2016 8:53 PM
To: Eric Lovell
Subject: RE: Uroboros response to request for information

Batch tickets sound perfect and I don't need the recipes for now. Thank you for pulling those together. Also the inventory records would be super helpful if that is possible. I am actually in Portland and if it is easier I could pick up the records tomorrow morning if you would like. It would probably be sometime between 10:30-12ish? (I am driving to seattle after that) Mailing is fine too, whichever you prefer.

Katie

From: Eric Lovell [<mailto:eric@uroboros.com>]
Sent: Monday, February 22, 2016 9:01 AM
To: McClintock, Katie <McClintock.Katie@epa.gov>
Subject: RE: Uroboros response to request for information

OK, that's what I was thinking. We have the batch tickets for you now, though we still need to go back and mark each page 'Proprietary Formulation, CBI'. They will show you the actual weights measured out as you expected. Since we tend to produce 1.5 to 2 months of inventory of any finished product, the 4+ month time span you requested would cover about 2 production cycles for most finished items.

Your request for information also asked for recipes (formulas in our terminology), which show the same information as batch tickets (weights of each raw material) but in 1000 Lb standard weights, hence my query on this topic.

We could also provide inventory reports and purchase records for any raw material for any time period, so that would be another way to get to the total amounts used per raw material. For example, starting inventory, plus purchases, less ending inventory would equal amount used. I think this would be easier than adding up the small amounts over hundreds of batch tickets.

I suggest we send up the copies we've made of the batch tickets so you can get a feel for how they will work for you, then consider what further information you might need.

Please confirm,

Eric L.

From: McClintock, Katie [<mailto:McClintock.Katie@epa.gov>]
Sent: Saturday, February 20, 2016 8:19 PM
To: Eric Lovell
Subject: RE: Uroboros response to request for information

Hi Eric –

Thank you for your email. We need to get information related to the quantity of each metal used at the facility each day over a period of time. A year would be best, but I am starting with a shorter period of time to lessen the burden. The formulas do not provide information on how much of the different products you make. I need to know how many of each formula you made and the date. If you have access to the batch tickets, then those are the records I need that will help me most accurately and quickly determine the amount of metals used.

Just to make sure I understand why you are asking the question, do you have access to those batch tickets? Are they kept somewhere (or saved in a computer)? If so, this should be easy to

produce, even if it is 400 pages. If they are not kept, then we should talk about what records you do have (batch recipes and perhaps another charge/operation log which would show how much of each recipe was made on a particular day). However, if those batch tickets (with actual quantities used per day) exist, then those are the records we are requesting.

Does this help?

Katie

From: Eric Lovell [<mailto:eric@uroboros.com>]
Sent: Saturday, February 20, 2016 10:48 AM
To: McClintock, Katie <McClintock.Katie@epa.gov>
Subject: RE: Uroboros response to request for information

Would you mind if we re-visit the topic of the batch tickets and recipes? Here's why:

There were in excess of 400 unique batch tickets from the 4+ month period you are examining. Each shows the exact weight of each raw material used, in addition to the melted weight of that mix. The formulas show the same information but in standardized 1000 Lb. quantities. I'm not sure what you'll gain for our effort of collecting and your effort reviewing another 400+ pages with essentially the same information.

Please advise.

Eric L.

From: McClintock, Katie [<mailto:McClintock.Katie@epa.gov>]
Sent: Friday, February 19, 2016 7:19 PM
To: Eric Lovell
Subject: RE: Uroboros response to request for information

Thank you Eric –

You have been diligent and responsive and I appreciate your frequent check ins about the progress. I will start reviewing this data this weekend and let you know what questions I have.

Katie

From: Eric Lovell [<mailto:eric@uroboros.com>]
Sent: Friday, February 19, 2016 2:55 PM
To: McClintock, Katie <McClintock.Katie@epa.gov>
Subject: Uroboros response to request for information

Dear Ms. McClintock,

Attached are eight digital files containing much of what you have requested. The first is a written response to each of the questions, and the others contain supporting documents.

I believe this fulfills your request completely, except for the batch tickets and formulas/recipes. We are still working on collecting those documents, and expect to mail those to you in paper form early next week. I apologize if it appears we are being too slow at providing these documents. I can explain what is taking the time if you wish, but we are putting several hours per day into it, and are getting close to having a complete and accurate set for you.

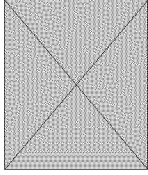
If I have missed anything, if you need additional information, or if you need any explanations of the materials, please let me know.

Sincerely,

Eric L.

Eric Lovell

President



2139 N. Kerby Ave
Portland, OR 97227
503-284-4900 x 201 T
503-284-7584 F

To: Koprowski, Paul[Koprowski.Paul@epa.gov]
From: McClintock, Katie
Sent: Tue 2/23/2016 5:04:28 AM
Subject: RE: Planning for Thursday, 2/25, RA Update on Portland Air Toxics

Paul –

I think yes. It is so hard to get health straight answers and I think it is because the health equation isn't cut and dry. However, I think the panic felt in Portland is difficult to quantify to others. I still can't say if health people are really concerned or not! I think this kind of information needs to be better quantified for management if possible. I'm just not sure how to get that. Julie Wroble might be good to include.

From: Koprowski, Paul
Sent: Monday, February 22, 2016 11:15 AM
To: Barber, Anthony <Barber.Anthony@epa.gov>
Cc: Hastings, Janis <Hastings.Janis@epa.gov>; Holsman, Marianne <Holsman.Marianne@epa.gov>; Bray, Dave <Bray.Dave@epa.gov>; Narvaez, Madonna <Narvaez.Madonna@epa.gov>; Smith, Judy <Smith.Judy@epa.gov>; McClintock, Katie <McClintock.Katie@epa.gov>; Koerber, Mike <Koerber.Mike@epa.gov>; Davis, Alison <Davis.Alison@epa.gov>; Terry, Sara <Terry.Sara@epa.gov>; Davis, Matthew <Davis.Matthew@epa.gov>; Downey, Scott <Downey.Scott@epa.gov>; Moon, Wally <Moon.Wally@epa.gov>; Bremer, Kristen <Bremer.Kristen@epa.gov>; Fairchild, Susan <Fairchild.Susan@epa.gov>
Subject: RE: Planning for Thursday, 2/25, RA Update on Portland Air Toxics

Tony,

Per our discussion this morning I'm wondering if the agenda for Thursday should have some information/discussion about potential health risks, i.e. what value will we compare the soil sampling results to once the numbers start coming in, what ambient level should we use to compare the monitoring data once that data starts coming in and what is our basis for selecting the values to compare the data to? Also, the health department has said it's not an acute problem but there may be a chronic problem so how long do we need to monitor to say it is or isn't a chronic problem? When/if does modeling kick in?

What do you think?

Paul

Paul Koprowski

U.S. EPA; Oregon Operations Office

805 SW Broadway, Suite 500

Portland, Oregon 97205

(503) 326-6363

From: Hastings, Janis

Sent: Monday, February 22, 2016 10:53 AM

To: Holsman, Marianne <Holsman.Marianne@epa.gov>; Bray, Dave <Bray.Dave@epa.gov>; Koprowski, Paul <Koprowski.Paul@epa.gov>; Narvaez, Madonna <Narvaez.Madonna@epa.gov>; Smith, Judy <Smith.Judy@epa.gov>; McClintock, Katie <McClintock.Katie@epa.gov>; Koerber, Mike <Koerber.Mike@epa.gov>; Davis, Alison <Davis.Alison@epa.gov>; Barber, Anthony <Barber.Anthony@epa.gov>; Terry, Sara <Terry.Sara@epa.gov>; Davis, Matthew <Davis.Matthew@epa.gov>

Cc: Downey, Scott <Downey.Scott@epa.gov>; Moon, Wally <Moon.Wally@epa.gov>; Bremer, Kristen <Bremer.Kristen@epa.gov>; Fairchild, Susan <Fairchild.Susan@epa.gov>

Subject: Planning for Thursday, 2/25, RA Update on Portland Air Toxics

Hi, everyone. We will use the call scheduled for this Thursday, 2/25, to update Dennis. I have forwarded the call-in information to him. He is generally aware of the background and issues, so we will focus on updates.

Instead of the regular daily update, below is a very rough agenda for Thursday, which I hope Dave, Katie, Madonna, and Mike can finalize.

Dave, could you please send out the final agenda for Thursday's call on Wed?

Topics (5 min each)

- Portland facilities: Brief updates and next steps – Katie
- Applicability determinations for the above facilities: Status – OAQPS?
- Other facilities nationwide: Brief update and next steps – HQ?
- ODEQ's requests for support: Current status/needs – Katie/Paul/Wally?
- Spectrum: Status and comparison with Bullseye – Katie
- Questions from Dennis

Thanks!

Jan

Janis Hastings, Acting Director

Office of Air, Waste & Toxics

U.S. Environmental Protection Agency, Region 10

1200 Sixth Ave, Ste. 900

Seattle, WA 98101

(206) 553-1582

From: Holsman, Marianne

Sent: Friday, February 19, 2016 1:09 PM

To: Bray, Dave <Bray.Dave@epa.gov>; Hastings, Janis <Hastings.Janis@epa.gov>;
Koprowski, Paul <Koprowski.Paul@epa.gov>; Narvaez, Madonna
<Narvaez.Madonna@epa.gov>; Smith, Judy <Smith.Judy@epa.gov>; McClintock, Katie
<McClintock.Katie@epa.gov>; Koerber, Mike <Koerber.Mike@epa.gov>; Davis, Alison

<Davis.Alison@epa.gov>; Barber, Anthony <Barber.Anthony@epa.gov>; Terry, Sara <Terry.Sara@epa.gov>; Davis, Matthew <Davis.Matthew@epa.gov>
Cc: Downey, Scott <Downey.Scott@epa.gov>; Moon, Wally <Moon.Wally@epa.gov>; Bremer, Kristen <Bremer.Kristen@epa.gov>; Fairchild, Susan <Fairchild.Susan@epa.gov>
Subject: Re: Daily Updates on Portland Air Toxics

Hi Folks:

Sorry for all the calendar activity. I clearly need to slow down! Thanks to Katie for noting our daily calls were set for the weekends. Thankfully that doesn't seem necessary.

We'll catch up on Monday. May not be a ton to discuss then, but maybe we can make a plan for who needs to be in the conversations about what are the next steps and how we'll be communicating about them?

Have a good weekend!

From: Holsman, Marianne
Sent: Tuesday, February 16, 2016 4:12 PM
To: Holsman, Marianne; Bray, Dave; Hastings, Janis; Koprowski, Paul; Narvaez, Madonna; Smith, Judy; McClintock, Katie; Koerber, Mike; Davis, Alison; Barber, Anthony; Terry, Sara; Davis, Matthew
Cc: Downey, Scott; Moon, Wally; Bremer, Kristen; Fairchild, Susan
Subject: Daily Updates on Portland Air Toxics
When: Friday, February 19, 2016 8:30 AM-9:00 AM.
Where: 1-866-299-3188, code: 2065531237#

Hi Folks:

Thought at least a morning update each day would help everyone know what is happening given how dynamic things are right now. May want to do an end of day wrap as well.

If you can't make the updates, please send me and Jan an email and we'll report for you.

The idea is we each report on what we know and are working on currently. Simple!

Thanks!

To: Eric Lovell[eric@uroboros.com]
From: McClintock, Katie
Sent: Tue 2/23/2016 4:53:08 AM
Subject: RE: Uroboros response to request for information

Batch tickets sound perfect and I don't need the recipes for now. Thank you for pulling those together. Also the inventory records would be super helpful if that is possible. I am actually in Portland and if it is easier I could pick up the records tomorrow morning if you would like. It would probably be sometime between 10:30-12ish? (I am driving to seattle after that) Mailing is fine too, whichever you prefer.

Katie

From: Eric Lovell [mailto:eric@uroboros.com]
Sent: Monday, February 22, 2016 9:01 AM
To: McClintock, Katie <McClintock.Katie@epa.gov>
Subject: RE: Uroboros response to request for information

OK, that's what I was thinking. We have the batch tickets for you now, though we still need to go back and mark each page 'Proprietary Formulation, CBI'. They will show you the actual weights measured out as you expected. Since we tend to produce 1.5 to 2 months of inventory of any finished product, the 4+ month time span you requested would cover about 2 production cycles for most finished items.

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I suggest we send up the copies we've made of the batch tickets so you can get a feel for how

they will work for you, then consider what further information you might need.

Please confirm,

Eric L.

From: McClintock, Katie [<mailto:McClintock.Katie@epa.gov>]
Sent: Saturday, February 20, 2016 8:19 PM
To: Eric Lovell
Subject: RE: Uroboros response to request for information

Hi Eric –

Thank you for your email. We need to get information related to the quantity of each metal used at the facility each day over a period of time. A year would be best, but I am starting with a shorter period of time to lessen the burden. The formulas do not provide information on how much of the different products you make. I need to know how many of each formula you made and the date. If you have access to the batch tickets, then those are the records I need that will help me most accurately and quickly determine the amount of metals used.

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Does this help?

Katie

From: Eric Lovell [<mailto:eric@uroboros.com>]
Sent: Saturday, February 20, 2016 10:48 AM
To: McClintock, Katie <McClintock.Katie@epa.gov>
Subject: RE: Uroboros response to request for information

Would you mind if we re-visit the topic of the batch tickets and recipes? Here's why:

There were in excess of 400 unique batch tickets from the 4+ month period you are examining. Each shows the exact weight of each raw material used, in addition to the melted weight of that mix. The formulas show the same information but in standardized 1000 Lb. quantities. I'm not sure what you'll gain for our effort of collecting and your effort reviewing another 400+ pages with essentially the same information.

Please advise.

Eric L.

From: McClintock, Katie [<mailto:McClintock.Katie@epa.gov>]
Sent: Friday, February 19, 2016 7:19 PM
To: Eric Lovell
Subject: RE: Uroboros response to request for information

Thank you Eric –

You have been diligent and responsive and I appreciate your frequent check ins about the progress. I will start reviewing this data this weekend and let you know what questions I have.

Katie

From: Eric Lovell [<mailto:eric@uroboros.com>]
Sent: Friday, February 19, 2016 2:55 PM
To: McClintock, Katie <McClintock.Katie@epa.gov>
Subject: Uroboros response to request for information

Dear Ms. McClintock,

Attached are eight digital files containing much of what you have requested. The first is a written response to each of the questions, and the others contain supporting documents.

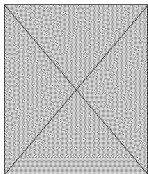
I believe this fulfills your request completely, except for the batch tickets and formulas/recipes. We are still working on collecting those documents, and expect to mail those to you in paper form early next week. I apologize if it appears we are being too slow at providing these documents. I can explain what is taking the time if you wish, but we are putting several hours per day into it, and are getting close to having a complete and accurate set for you.

If I have missed anything, if you need additional information, or if you need any explanations of the materials, please let me know.

Sincerely,

Eric L.

Eric Lovell
President



2139 N. Kerby Ave
Portland, OR 97227
503-284-4900 x 201 T
503-284-7584 F

To: Wroble, Julie[Wroble.Julie@epa.gov]
From: McClintock, Katie
Sent: Tue 2/23/2016 4:52:20 AM
Subject: RE: NATA data for chromium

Thanks Julie. I dropped that document on the onedrive and I tried (my best) to summarize the data in my daily update that I will send around shortly. It also provides nice counterpoint to the preliminary monitoring results I heard today (4th hand or so).

Thanks for passing along the data. It is really helpful to me!

From: Wroble, Julie
Sent: Monday, February 22, 2016 8:52 AM
To: McClintock, Katie <McClintock.Katie@epa.gov>
Subject: FW: NATA data for chromium

Can you post this information on your daily?

I think it puts the results into perspective.

Julie

From: Strum, Madeleine
Sent: Monday, February 22, 2016 8:06 AM
To: Palma, Ted <Palma.Ted@epa.gov>; Wroble, Julie <Wroble.Julie@epa.gov>
Subject: RE: NATA data for chromium

Julie and Ted

The Portland NATTS has both hex chromium and chromium measurements— both PM10

The Portland NATTS is at

MONITOR_LATITUDE MONITOR_LONGITUDE

45.561301

-122.678784

The annual average chromium concentration ranges from 0.8 to 1.3 ng/m³; most of the 1-in-6 measurements (across all years) are below MDL. Year 2013 is 0.9; year 2005 is 1.1

Chromium VI at the Portland NATTS is mostly nondetect (except for 2005 – but they were still mostly below MDL). For nondetect we substituted zero. Annual averages ranged from 0.01 ng/m³ (2011) to 0.03 ng/m³ (2005).

If you look at the Portland community scale air toxics grant results, chromium was also mostly below MDL. (see attached)

Madeleine Strum
U.S. Environmental Protection Agency
Office of Air Quality Planning and Standards/Air Quality Assessment Division/EIAG
919 541 2383 (voice)

From: Palma, Ted
Sent: Monday, February 22, 2016 7:17 AM
To: Wroble, Julie <Wroble.Julie@epa.gov>
Cc: Strum, Madeleine <Strum.Madeleine@epa.gov>
Subject: RE: NATA data for chromium

these numbers seem high, according to the 2011 NATA

around the bullseye plant Chromium VI (Hexavalent) is (µg/m³) 0.000036

or 0.036 ng/m³. if we assume that the hex is only 1% of total we would get a total Cr of about 4 ng/m³.

Maybe Madie can look at NATTS sites to see what they have

Ted

Ted Palma

USEPA

OAQPS/HEID/ATAG

MD C539-02

RTP, NC 27711

919-541-5470 (work)

palma.ted@epa.gov

From: Wroble, Julie
Sent: Friday, February 19, 2016 1:48 PM
To: Palma, Ted <Palma.Ted@epa.gov>
Cc: Strum, Madeleine <Strum.Madeleine@epa.gov>
Subject: RE: NATA data for chromium

Table 3-2 (<http://www.pscleanair.org/library/Documents/PSAirToxicsEvalFinal.pdf>) shows much lower levels of chromium than what was seen near Bullseye. This is reassuring that what's at Bullseye is unique.

From: Wroble, Julie
Sent: Friday, February 19, 2016 10:42 AM
To: Palma, Ted <Palma.Ted@epa.gov>
Cc: Strum, Madeleine <Strum.Madeleine@epa.gov>
Subject: NATA data for chromium

Ted/Madeleine:

I'm doing a bit of my own searching on chromium to try to get a handle on some background information for the Bullseye Glass situation. I am just reading ATSDR's tox profile and they say urban air typically contains 0-30 ng/m³ of chromium. If that is true, then maybe the results in Portland aren't that alarming. However, I wonder how ATSDR's statement compares with either NATA or air toxics monitoring studies for chromium.

Have you looked into the national or Portland NATA results for chromium? I'll see what some of the regional monitoring studies have to say.

Julie

sample date	Chromium (ng/m ³)
10/6/15	406.7
10/7/15	20.2
10/9/15	24.4
10/10/15	24.9
10/12/15	25.5
10/14/15	19.0
10/15/15	17.4
10/17/15	21.0

10/18/15	20.1
10/20/15	21.4
10/21/15	22.8
10/23/15	23.3
10/24/15	439.5
10/26/15	48.0
10/27/15	24.4
10/29/15	37.7
10/30/15	38.5
11/2/15	52.6
Average	71.5

Julie Wroble|Acting Unit Manager, Risk Evaluation Unit|Toxicologist|USEPA Region 10|1200
6th Ave., OEA-140|Seattle, WA 98101|T: 206-553-1079|e-mail: wroble.julie@epa.gov

To: PALERMO Jaclyn[PALERMO.Jaclyn@deq.state.or.us]
From: McClintock, Katie
Sent: Mon 2/22/2016 4:35:55 AM
Subject: RE: quick question
[BIN 3 Final Rules.pdf](#)

I remembered that the 6S rule was published at the same time as a ceramics rule (6R). I am attaching the final rule with response to comments.

I am also going to email the rule writer and compliance lead and going to cc you. If it is like the glass rule, the writer will be VERY informed about the business. I think a call with her would be a great next step. I'm happy to participate but encourage you to reach out to her on whatever timeline works for you since I'll be pretty busy the next two days.

I'd also recommend this webpage: <http://www3.epa.gov/ttn/atw/mactfnlalp.html>
It lists each of the rules and the epa contacts. There are two under "chromium" that might be of interest. There are several other that are metals related. The harder thing is going to know what sources exist in your region, but when it comes to area sources, there are usually quite a few of them.

Good luck.

Katie

-----Original Message-----

From: PALERMO Jaclyn [mailto:PALERMO.Jaclyn@deq.state.or.us]
Sent: Sunday, February 21, 2016 4:35 PM
To: McClintock, Katie <McClintock.Katie@epa.gov>
Subject: RE: quick question

I am solely looking at metals for now.

Sent via the Samsung GALAXY S®4, an AT&T 4G LTE smartphone

----- Original message -----

From: "McClintock, Katie" <McClintock.Katie@epa.gov>
Date: 02/21/2016 4:07 PM (GMT-08:00)
To: PALERMO Jaclyn <PALERMO.Jaclyn@deq.state.or.us>
Subject: RE: quick question

One more (for now). Are you looking into hydrofluoric acid? Was reading the mercury paper and some people have written into our regional administrator. I can't imagine it will have an ambient impact but curious if anyone has added it to your list of impossible tasks.

-----Original Message-----

From: PALERMO Jaclyn [mailto:PALERMO.Jaclyn@deq.state.or.us]
Sent: Sunday, February 21, 2016 3:39 PM
To: McClintock, Katie <McClintock.Katie@epa.gov>
Subject: RE: quick question

Ambient. My understanding is Oregon health is looking into health impacts.

Sent via the Samsung GALAXY S®4, an AT&T 4G LTE smartphone

----- Original message -----

From: "McClintock, Katie" <McClintock.Katie@epa.gov>
Date: 02/21/2016 3:28 PM (GMT-08:00)
To: PALERMO Jaclyn <PALERMO.Jaclyn@deq.state.or.us>
Subject: quick question

I know you are focused on all metals users, big and small, but curious if the goal is only in determining those that could have an ambient impact or is worker/artist exposure a concern too?

Katie McClintock
Air Enforcement Officer
EPA Region 10
1200 Sixth Avenue, Suite 900, OCE-101
Seattle, WA 98101
Phone: 206-553-2143
Fax: 206-553-4743
Mcclintock.katie@epa.gov



Federal Register

Wednesday,
December 26, 2007

Part IV

Environmental Protection Agency

40 CFR Part 63

National Emission Standards for
Hazardous Air Pollutants for Area
Sources: Clay Ceramics Manufacturing,
Glass Manufacturing, and Secondary
Nonferrous Metals Processing; Final Rule

ENVIRONMENTAL PROTECTION AGENCY**40 CFR Part 63**

[EPA-HQ-OAR-2006-0424; EPA-HQ-OAR-2006-0360; EPA-HQ-OAR-2006-0940; FRL-8508-5]

National Emission Standards for Hazardous Air Pollutants for Area Sources: Clay Ceramics Manufacturing, Glass Manufacturing, and Secondary Nonferrous Metals Processing

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA is issuing national emission standards for the Clay Ceramics Manufacturing, Glass Manufacturing, and Secondary Nonferrous Metals Processing area source categories. Each of these three final emissions standards reflects the generally available control technology or management practices used by sources within the respective area source category.

DATES: This final rule is effective on December 26, 2007. The incorporation by reference of certain publications listed in this rule are approved by the Director of the Federal Register as of December 26, 2007.

ADDRESSES: EPA has established dockets for this action under Docket ID No. EPA-HQ-OAR-2006-0424 (for Clay Ceramics Manufacturing), Docket ID No. EPA-HQ-OAR-2006-0360 (for Glass Manufacturing), and Docket ID No. EPA-HQ-OAR-2006-0940 (for Secondary Nonferrous Metals Processing). All documents in the docket are listed in the <http://www.regulations.gov> index. Although listed in the index, some information is not publicly available, e.g., confidential business information or other information whose disclosure is

restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through <http://www.regulations.gov> or in hard copy at the EPA Docket Center, Public Reading Room, EPA West, Room 3334, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Air Docket is (202) 566-1742.

FOR FURTHER INFORMATION CONTACT: For questions about the final rule for Clay Ceramics Manufacturing, contact Mr. Bill Neuffer, Office of Air Quality Planning and Standards, Sector Policies and Programs Division, Metals and Minerals Group (D243-02), Environmental Protection Agency, Research Triangle Park, NC 27711; *telephone number:* (919) 541-5435; *fax number:* (919) 541-3207; *e-mail address:* Neuffer.Bill@epa.gov. For questions about the final rule for Glass Manufacturing or Secondary Nonferrous Metals Processing, contact Ms. Susan Fairchild, Office of Air Quality Planning and Standards, Sector Policies and Programs Division, Metals and Minerals Group (D243-02), Research Triangle Park, NC 27711, *telephone number:* (919) 541-5167, *fax number:* (919) 541-3207, *e-mail address:* Fairchild.Susan@epa.gov.

SUPPLEMENTARY INFORMATION: The supplementary information presented in this preamble is organized as follows:

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I. General Information

A. Does this action apply to me?

The regulated categories and entities potentially affected by these final standards include:

Category (Industry)	NAICS code ¹	Examples of regulated entities
Clay Ceramics Manufacturing	327122 327111 327112	Area source facilities that manufacture ceramic wall and floor tile, vitreous plumbing fixtures, sanitaryware, vitreous china tableware and kitchenware, and/or pottery.
Glass Manufacturing	327211 327212 327213	Area source facilities that manufacture flat glass, glass containers, and other pressed and blown glass and glassware.
Secondary Nonferrous Metals Processing	331492 331423	Area source brass and bronze ingot making, secondary magnesium processing, or secondary zinc processing plants that melt post-consumer nonferrous metal scrap to make products, including bars, ingots, and blocks, or metal powders. ²

¹ North American Industry Classification System.

² The Secondary Nonferrous Metals Processing area source category was originally established under SIC code 3341, a broader classification which included brass and bronze ingot makers. The corresponding NAICS code for brass and bronze ingot makers is 331423.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by this action. To determine whether your facility is regulated by this action, you should examine the applicability criteria in 40 CFR 63.11435 of subpart RRRRRR (national emissions standards for hazardous air pollutants (NESHAP) for Clay Ceramics Manufacturing Area Sources), 40 CFR 63.11448 of subpart SSSSSS (NESHAP for Glass Manufacturing Area Sources), and 40 CFR 63.11462 of subpart TTTTTT (NESHAP for Secondary Nonferrous Metals Processing). If you have any questions regarding the applicability of this action to a particular entity, consult either the air permit authority for the entity or your EPA Regional representative as listed in 40 CFR 63.13 of subpart A (General Provisions).

B. Where can I get a copy of this document?

In addition to being available in the docket, an electronic copy of this final action will also be available on the Worldwide Web (WWW) through the Technology Transfer Network (TTN). Following signature, a copy of the final action will be posted on the TTN's policy and guidance page for newly proposed or promulgated rules at the following address: www.epa.gov/ttn/oarpg/. The TTN provides information and technology exchange in various areas of air pollution control.

C. Judicial Review

Under section 307(b)(1) of the Clean Air Act (CAA), judicial review of these final rules is available only by filing a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit by February 25, 2008. Under section 307(d)(7)(B) of the CAA, only an objection to these final rules that was raised with reasonable specificity during the period for public comment can be raised during judicial review. This section also provides a mechanism for us to convene a proceeding for reconsideration, "[i]f the person raising an objection can demonstrate to EPA that it was impracticable to raise such objection within [the period for public comment] or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule." Any person seeking to make such a demonstration to us should submit a Petition for Reconsideration to the Office of the Administrator, Environmental Protection Agency, Room 3000, Ariel

Rios Building, 1200 Pennsylvania Ave., NW., Washington, DC 20460, with a copy to the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section, and the Associate General Counsel for the Air and Radiation Law Office, Office of General Counsel (Mail Code 2344A), Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20004. Moreover, under section 307(d)(7)(B) of the CAA, only an objection to these final rules that was raised with reasonable specificity during the period for public comment can be raised during judicial review. Moreover, under section 307(b)(2) of the CAA, the requirements established by these final rules may not be challenged separately in any civil or criminal proceedings brought by EPA to enforce these requirements.

II. Background Information for Final Area Source Standards

Section 112(k)(3)(B) of the CAA requires EPA to identify at least 30 hazardous air pollutants (HAP) which, as the result of emissions from area sources,^a pose the greatest threat to public health in urban areas. Consistent with this provision, in 1999, in the Integrated Urban Air Toxics Strategy, EPA identified the 30 HAP that pose the greatest potential health threat in urban areas, and these HAP are referred to as the "urban HAP." See 64 FR 38706, 38715–716, July 19, 1999. Section 112(c)(3) requires EPA to list sufficient categories or subcategories of area sources to ensure that area sources representing 90 percent of the emissions of the 30 urban HAP are subject to regulation. EPA listed the source categories that account for 90 percent of the urban HAP emissions in the Integrated Urban Air Toxics Strategy.^b Sierra Club sued EPA, alleging a failure to complete standards for the source categories listed pursuant to CAA section 112(c)(3) and 112(k)(3)(B) within the timeframe specified by the statute. See *Sierra Club v. Johnson*, No. 01–1537, (D.D.C.). On March 31, 2006, the court issued an order requiring EPA to promulgate standards under CAA section 112(d) for those area source categories listed pursuant to CAA section 112(c)(3) and 112(k)(3)(B).

Among other things, the court order, as amended on October 15, 2007,

^a An area source is a stationary source of HAP emissions that is not a major source. A major source is a stationary source that emits or has the potential to emit 10 tons per year (tpy) or more of any HAP or 25 tpy or more of any combination of HAP.

^b Since its publication in the Integrated Urban Air Toxics Strategy in 1999, the area source category list has undergone several amendments.

requires that EPA complete standards for 9 area source categories by December 15, 2007. On September 20, 2007 (72 FR 53838), we proposed NESHAP for the following three listed area source categories: (1) Clay Ceramics Manufacturing; (2) Glass Manufacturing; and (3) Secondary Nonferrous Metals Processing as part of our effort to meet the December 15, 2007 deadline. The standards for the other categories are being issued in separate actions.

Under CAA section 112(d)(5), the Administrator may, in lieu of standards requiring maximum achievable control technology (MACT) under section 112(d)(2), elect to promulgate standards or requirements for area sources "which provide for the use of generally available control technologies or management practices by such sources to reduce emissions of hazardous air pollutants." Under section 112(d)(5), the Administrator has the discretion to use generally available control technology or management practices (GACT) in lieu of MACT. As explained in the proposed NESHAP, we are setting standards for these three source categories pursuant to section 112(d)(5). See 72 FR 53840, September 20, 2007.

III. Summary of Final Rules and Changes Since Proposal

This section summarizes the final rules and identifies changes since proposal. For changes that were made as a result of public comments, we have provided detailed explanations of the changes and the rationale for the changes in the responses to comments in section V of this preamble.

A. Area Source NESHAP for Clay Ceramics Manufacturing

1. Applicability and Compliance Dates

The only substantive changes to the Clay Ceramics rule made since proposal are clarifications of applicability. There was an error in the wording of the applicable compliance dates, and we have revised the rule since proposal to clarify that an affected source is existing if construction or reconstruction was commenced on or before September 20, 2007, and an affected source is new if construction or reconstruction was commenced after September 20, 2007. These clarifications of existing and new source are consistent with the definitions specified in § 63.2.

The final standards apply to any new or existing affected source at a clay ceramics manufacturing facility that is an area source and uses more than 45 megagrams per year (Mg/yr) (50 tons per year (tpy)) of clay. The affected source are all kilns that fire glazed ceramic

ware and all atomized spray glaze operations located at such a facility.

The owner or operator of an existing affected source must comply with the standards by December 26, 2007. The owner or operator of a new affected source is required to comply with the standards by December 26, 2007 or upon startup, whichever is later.

2. Standards

The Clay Products Manufacturing area source category (which included clay ceramics manufacturing) was listed for regulation under section 112(c)(3) for its contribution of the following urban HAP: chromium, lead, manganese, and nickel. No changes have been made since proposal to the standards for clay ceramics manufacturing facilities.

For each kiln firing glazed ceramic ware, the final standards require the facility owner or operator to maintain the kiln peak temperature below 1540°C (2800°F) and either use natural gas, or an equivalent clean-burning fuel, as the kiln fuel. The facility owner or operator has the option of using an electric-powered kiln.

The requirements for atomized spray glaze operations at clay ceramic manufacturing area source facilities differ depending on whether a facility has annual wet glaze usage above or below 227 Mg/yr (250 tpy). Consequently, we are requiring that the facility owner or operator maintain annual wet glaze usage records in order to document whether they are above or below 227 Mg/yr (250 tpy) wet glaze usage.

For each atomized spray glaze operation located at a clay ceramics manufacturing facility that uses more than 227 Mg/yr (250 tpy) of wet glaze(s), the final standards require the facility owner or operator to have an air pollution control device (APCD) on their glazing operations and operate and maintain the control device according to the equipment manufacturer's specifications. As a pollution prevention alternative to this requirement, we are also providing the option to use glazes containing less than 0.1 (weight) percent clay ceramics metal HAP for those facilities above the threshold, which is expected to provide emissions reductions equivalent or greater than those obtained using particulate matter (PM) controls.

For each atomized spray glaze operation located at a clay ceramics manufacturing facility that uses 227 Mg/yr (250 tpy) or less of wet glaze(s), the final standards require the facility owner or operator to employ waste minimization practices in their glazing operations. In the preamble to the

proposed rule, we acknowledged that some of these smaller facilities operate their atomized spray glaze operations with APCDs or use glazes containing less than 0.1 (weight) percent clay ceramics metal HAP. These alternative compliance options achieve reductions in metal HAP emissions that are at least equivalent to the metal HAP reductions from the waste minimization practices. Therefore, the final rule includes the use of glazes containing less than 0.1 (weight) percent clay ceramics metal HAP or an APCD as alternative compliance options for the waste minimization practices.

3. Compliance Requirements

No changes have been made since proposal to the compliance requirements for clay ceramics manufacturing facilities.

Initial compliance demonstration requirements. The owner or operator is required to include a compliance certification for the standards in their Notification of Compliance Status. For any wet spray glaze operations controlled with an APCD, an initial inspection of the control equipment must be conducted within 60 days of the compliance date and the results of the inspection included in the Notification of Compliance Status.

Monitoring requirements. For each kiln firing glazed ceramic ware, the final standards require the owner or operator to conduct a check of the kiln peak firing temperature on a daily basis. If the peak firing temperature exceeds 1540°C (2800°F), the owner or operator must take corrective action according to the facility's standard operating procedures.

For all sources that operate an APCD for their atomized spray glaze operations, we are requiring daily and weekly visual APCD inspections, daily EPA Method 22 visible emissions (VE) tests (40 CFR part 60, appendix A-7), or an EPA-approved alternative monitoring program to ensure that the APCD is kept in a satisfactory state of maintenance and repair and continues to operate effectively.

The owner or operator is allowed to use existing operating permit documentation to meet the monitoring requirements, provided it includes the necessary monitoring records (e.g., the date, place, and time of the monitoring; the person conducting the monitoring; the monitoring technique or method; the operating conditions during monitoring; and the monitoring results).

Notification and recordkeeping requirements. We are requiring that affected sources submit Initial Notifications and Notifications of Compliance Status according to the part

63 General Provisions. Facilities must submit the notifications by April 24, 2008.

B. Area Source NESHA for Glass Manufacturing

1. Summary of Changes Since Proposal Applicability

We have revised the applicability criteria of the rule in § 63.11448 to clarify that periodic or pot furnaces are not part of the source category. The final rule applies only to glass manufacturing plants that operate continuous furnaces and use one or more of the glass manufacturing metal HAP as raw materials.

In light of the changes made to the applicability criteria in § 63.11448, we added a new paragraph to § 63.11449(a)(1), which states that, to be an affected source, the furnace must be a continuous furnace. We added a definition of "continuous furnace" to § 63.11459 to further clarify how affected furnace is defined. We made an additional revision to § 63.11449(a) to clarify that, consistent with the proposed rule, to be an affected source, a furnace must produce least 45 Mg/yr (50 tpy) of glass that contains one or more of the glass manufacturing metal HAP as raw materials. In the proposed rule, it was unclear whether a furnace that is used to produce more than 45 Mg/yr (50 tpy) of glass, but less than 45 Mg/yr (50 tpy) of glass containing metal HAP as raw materials, would be an affected source. The revision clarifies that such a furnace would not be an affected furnace. Finally, we inserted a new paragraph § 63.11449(b) to clarify that furnaces that are used exclusively for research and development (R&D) are not part of the source category and are therefore not subject to regulation under this final rule. We also added a definition for "research and development process unit" to § 63.11459.

In addition, we identified an error in the wording of the applicable compliance dates, and we have revised § 63.11449 since proposal to clarify that an affected source is existing if construction or reconstruction was commenced on or before September 20, 2007, and an affected source is new if construction or reconstruction was commenced after September 20, 2007. These clarifications of existing and new source are consistent with the definitions specified in § 63.2. Finally, we added a paragraph to the regulation to clarify that affected facilities must obtain a title V permit.

Performance Test Requirements

We revised § 63.11452(a) by adding paragraph (a)(3), which addresses the situation in which a facility operates affected furnaces that are identical. The new paragraph allows the owner or operator to demonstrate compliance for all such identical furnaces by testing only one of the furnaces. The additional paragraph specifies the criteria for determining if one furnace is identical to another and the conditions under which the furnace must be tested.

Under § 63.11452(b), we deleted paragraph (b)(2), which was redundant and renumbered the remaining paragraphs accordingly. We revised § 63.11452(b)(8), which formerly was paragraph (b)(9), to state that sampling ports for performance testing are to be located at the outlet to the furnace control device or in the furnace stack. The proposed rule was unclear regarding the exact location for emission testing. We added an alternative test method to Methods 3, 3A, and 3B for gas molecular weight analysis. We reorganized the paragraphs that address testing for PM or metal HAP to clarify which procedures to follow to determine compliance with the PM emission limit and which procedures to follow to determine compliance with the metal HAP emission limit. We also revised the definition of the metal HAP mass emission rate in Equation 2, which is signified as the variable "ERM". This variable specifies which metals are to be included in the analysis of the emission samples that are collected during testing. The revised text clarifies that ERM represents the combined mass emission rates for only those glass manufacturing metal HAP that are added as raw materials in the batch formulation.

Monitoring and Continuous Compliance Requirements

We revised the monitoring requirements by adding paragraph § 63.11454(a)(7), which specifies that the required monitoring must be performed any time the affected furnace is producing glass that is charged with one or more of the glass manufacturing metal HAP. Monitoring also must be performed during all transition phases from glass containing metal HAP to glass that does not contain metal HAP (i.e., until all HAP-containing glass has left the furnace melter). These transition phases encompass the period that begins when the plant stops charging the metal HAP as raw materials and ends when the furnace is producing a saleable product that does not contain

the glass manufacturing metal HAP as raw materials.

We revised § 63.11455(c) to clarify that the continuous compliance requirements apply whenever the affected furnace is producing glass that contains one or more of the glass manufacturing metal HAP, including any transition phases from metal HAP-containing glass to glass that does not contain the metal HAP. We also revised paragraph § 63.11455(c) to clarify the monitoring requirements for existing furnaces versus the monitoring requirements for new furnaces. We further revised § 63.11455 by adding paragraph (e) to clarify the continuous compliance requirements for affected furnaces that can meet the emission limits without the use of a control device. In such cases, the only requirements for demonstrating continuous compliance is to meet the applicable recordkeeping requirements specified in § 63.11457.

Notifications

We have revised § 63.11456 to simplify the section and clarify that the deadline for submitting the Initial Notification is 120 days after the furnace becomes subject to the rule, regardless of whether the furnace is existing or new.

Definitions

We have revised several of the definitions specified in § 63.11459 and added a number of new definitions to the section. We revised the definition of cullet to clarify that cullet is not considered a raw material when determining if a furnace is an affected source. We revised the definition of a glass melting furnace, which is defined in the final rule as the process unit in which raw materials are charged and melted at high temperature to produce molten glass. The previous definition included the raw material charging system and other appendages to the furnace. However, the revised definition is consistent with the procedures for testing furnaces to demonstrate compliance. We revised the definition of particulate matter by replacing the modifier "total" with "filterable." This revision makes the definition consistent with the test methods specified for demonstrating compliance with the PM emission limit. Finally, we revised the definition of raw material to clarify that it excludes cullet and material that is recycled from the furnace control device.

To clarify the applicability requirements in §§ 63.11448 and 63.11449, we added the definition of continuous furnace. To clarify the

performance testing requirements, we have added a definition for furnace stack. We also added a definition for identical furnaces, which pertains to the performance testing requirements for a facility that operates more than one identical furnace. Finally, we added a definition for research and development process unit. This definition was needed to clarify in § 63.11449(b) that furnaces used strictly for R&D are not subject to regulation under this final rule. Glass manufacturing furnaces used only for R&D were not part of the 1990 inventory and are not part of the listed source category.

Implementation and Enforcement Authority

We deleted paragraph § 63.11460(c), which was redundant. We also added a new paragraph (b)(2) to clarify that EPA retains the authority for approving alternative test methods.

2. Summary of Final Rule

Applicability and Compliance Dates

This NESHAP applies to any glass manufacturing plant that is an area source of HAP emissions and operates one or more continuous furnaces which produce at least 45 Mg/yr (50 tpy) of glass per furnace by melting a mixture of raw materials that includes compounds of one or more of the glass manufacturing metal HAP. The rule does not apply to periodic furnaces or furnaces that are used strictly for research and development.

The compliance date for existing sources is December 28, 2009. However, owners or operators of affected sources may request an extension of one additional year to comply with the rule, as allowed under section 112(i)(3)(B) of the CAA and under § 63.6(i)(4)(A), if the additional time is needed to install emission controls. The compliance date for new sources is December 26, 2007 or the startup date for the source, whichever is later. The compliance date for facilities with no affected sources as of December 26, 2007 and which later change processes or increase production and trigger applicability of the rule, is 2 years following the date on which the facility made the process changes or increased production and thereby became subject to the NESHAP.

Standards

The Glass Manufacturing area source category was listed for regulation under section 112(c)(3) for its contribution of the following urban HAP: arsenic, cadmium, chromium, lead, manganese, and nickel. The glass manufacturing final rule requires each new or existing affected furnace to comply with a PM

emission limit of 0.1 gram per kilogram (g/kg) (0.2 pound per ton (lb/ton)) of glass produced or an equivalent metal HAP emission limit of 0.01 g/kg (0.02 lb/ton) of glass produced.

Performance Testing

This final rule requires an initial one-time performance test on each affected furnace unless the furnace had been tested during the previous 5 years, and the previous test demonstrated compliance with the emission limits in this rule using the same test methods and procedures specified in this rule. This final rule requires testing using EPA Methods 5 or 17 (for PM emissions) or EPA Method 29 (for metal HAP emissions) in 40 CFR part 60, appendix A. This final rule also allows the owner or operator of affected identical furnaces to test only one of the furnaces if certain conditions are met.

Monitoring

The owner or operator of an existing affected glass furnace that is controlled with an electrostatic precipitator (ESP) must monitor the secondary voltage and secondary electrical current to each field of the ESP continuously and record the results at least once every 8 hours. The owner or operator of a new affected furnace equipped with an ESP must install and operate one or more continuous parameter monitoring systems to continuously measure and record the secondary voltage and secondary electrical current to each field of the ESP. Either of these parameters dropping below established levels provides an indication that the electrical power to the ESP field in question has decreased, and collection efficiency may have decreased accordingly.

Owners or operators of an existing affected glass furnace that is controlled with a fabric filter must monitor the fabric filter inlet temperature continuously and record the results at least once every 8 hours. The owner or operator of a new affected furnace that is equipped with a fabric filter must install and operate a bag leak detector.

As an alternative to monitoring ESP secondary voltage and electrical current or fabric filter inlet temperature, owners or operators of affected furnaces equipped with either of these control devices have the option of requesting alternative monitoring, as allowed under § 63.8(f). The alternative monitoring request must include a description of the monitoring device or monitoring method to be used; instrument location; inspection procedures; quality assurance and quality control measures; the parameters

to be monitored; and the frequency with which the operating parameter values would be measured and recorded. The owner or operator of an affected furnace that is equipped with a control device other than an ESP or fabric filter, or that uses other methods to reduce emissions, must submit a request for alternative monitoring, as described in § 63.8(f).

Control Device Inspections

The owner or operator of an affected furnace must conduct initial and periodic inspections of the furnace control device. For fabric filters, the final rule requires annual inspections of the ductwork, housing, and fabric filter interior. For electrostatic precipitators, this final rule requires annual inspections of the ductwork, hopper, and housing, and inspections of the ESP interior every 2 years.

Notification and Recordkeeping

Owners and operators of all affected glass manufacturing plants that operate at least one continuous furnace that produces at least 45 Mg/yr (50 tpy) of glass using any of the glass manufacturing metal HAP as raw materials must submit an Initial Notification, as required under § 63.9(b). Any facility with an affected source also must submit a Notification of Compliance Status, as specified in § 63.9(h).

Owners and operators of glass manufacturing facilities are required to keep records of all notifications, as well as supporting documentation for the notifications. In addition, they must keep records of performance tests; parameter monitoring data; monitoring system audits and evaluations; operation and maintenance of control devices and monitoring systems; control device inspections; and glass manufacturing batch formulation and production.

C. Area Source NESHAP for Secondary Nonferrous Metals Processing

1. Applicability and Compliance Dates

There was an error in the wording of the applicable compliance dates, and we have revised the rule since proposal to clarify that an affected source is existing if construction or reconstruction was commenced on or before September 20, 2007, and an affected source is new if construction or reconstruction was commenced after September 20, 2007. These clarifications of existing and new sources are consistent with the definitions specified in § 63.2.

The final standards apply to any new or existing affected source at an area source secondary nonferrous metals

processing facility. The affected source includes all crushing or screening operations at a secondary zinc processing facility and all furnace melting operations located at a secondary nonferrous metals processing facility.

The owner or operator of an existing affected source must comply with the standards by December 26, 2007. The owner or operator of a new affected source is required to comply with the standards by December 26, 2007, or upon initial startup, whichever is later.

2. Standards

The Secondary Nonferrous Metals Processing area source category was listed for regulation under section 112(c)(3) for its contribution of the following urban HAP: arsenic, chromium, lead, manganese, and nickel. We proposed to require the use of a fabric filter or baghouse that achieves a PM control efficiency of 99 percent for existing sources and 99.5 percent for new sources. Since our proposal, we learned that a facility had insufficient inlet ductwork to conduct a performance test for determining collection efficiency. The facility requested that we add an alternate emission limit expressed as an outlet concentration limit to the final standards.

As we noted in the proposed rule, the 10 existing facilities reported using baghouses on crushing or screening operations at secondary zinc facilities and on furnace melting operations at all facilities and that such baghouses performed at a PM collection efficiency of at least 99 percent or achieved an outlet PM concentration not exceeding 0.050 grams per dry standard cubic meter (g/dscm) (0.022 grains per dry standard cubic foot (gr/dscf)) where collection efficiency was not reported. Based on available outlet concentration data from ICR responses in the proposal docket and consideration of baghouse performance at similar sources, we have determined that limiting outlet PM concentrations to 0.034 g/dscm (0.015 gr/dscf) and 0.023 g/dscm (0.010 gr/dscf) would control PM and metal HAP emissions at levels that are equivalent to the levels of control from using a baghouse with a control efficiency of 99 and 99.5 percent, respectively. Because both the proposed control efficiency standards and the equivalent outlet concentration limits reflect the GACT levels of control, we have revised the proposed standards to include the outlet concentration limits as alternatives to the control efficiency standards.

The final standards require the owner or operator of an existing affected source

to route the emissions from the affected source through a fabric filter or baghouse that achieves a control efficiency of at least 99.0 percent or an outlet PM concentration limit of 0.034 g/dscm (0.015 gr/dscf). The owner or operator of a new affected source must route the emissions from the affected source through a fabric filter or baghouse that achieves a control efficiency of at least 99.5 percent or an outlet PM concentration limit of 0.023 g/dscm (0.010 gr/dscf).

3. Compliance Requirements

Performance test requirements. The owner or operator of any existing or new affected source must conduct a one-time initial performance test on the affected source. However, a new performance test is not required for existing affected sources that were tested within the past 5 years of the compliance date if the test was conducted using the same procedures specified in the standards and either no process changes had been made since the test, or the owner or operator demonstrates that the results of the performance test, with or without adjustments, reliably demonstrated compliance despite process changes. The tests for new and existing affected sources are to be conducted using EPA Method 5 in 40 CFR part 60, appendix A-3 or EPA Method 17 in 40 CFR part 60, appendix A-6.

Initial control device inspection. The owner or operator of each existing and new affected source is required to conduct an initial inspection of each baghouse. The owner or operator must visually inspect the system ductwork and baghouse unit for leaks and inspect the inside of each baghouse for structural integrity and fabric filter condition. The owner or operator must record the results of the inspection and any maintenance action taken.

For each installed baghouse which is in operation during the 60 days after the compliance date, the owner or operator must conduct the initial inspection no later than 60 days after the applicable compliance date. For an installed baghouse which is not in operation during the 60 days after the compliance date, the owner or operator is required to conduct an initial inspection prior to startup of the baghouse. An initial inspection of the internal components of a baghouse is not required if an inspection has been performed within the past 12 months.

Monitoring requirements. For existing affected sources, the owner or operator must conduct either daily visible emission (VE) tests using EPA Method 22 (40 CFR part 60, appendix A-7) or weekly visual inspections of the

baghouse system ductwork for leaks, as well as annual inspections of the interior of the baghouse to determine its structural integrity and to determine the condition of the fabric filter. For new affected sources, the owner or operator must operate and maintain a bag leak detection system for each baghouse used to comply with the standards. The final standards require the owner or operator to keep records of the date, place, and time of the monitoring; the person conducting the monitoring; the monitoring technique or method; the operating conditions during monitoring; and the monitoring results.

Notification and recordkeeping requirements. The owner or operator of an affected source must submit an Initial Notification and Notification of Compliance Status. The Notification of Compliance status must include, among other information, the results from the one-time initial performance test and certifications of compliance for the standards. We proposed to require facilities to submit both notifications no later than 120 days after the applicable compliance date regardless of whether they were required to conduct a performance test. Since our proposal, we discovered that, although we had intended to allow sources 180 days from the compliance date to conduct the initial performance test and an additional 60 days to submit the results of the performance test, the proposed rule implicitly shortened that time frame by 120 days because it required that the Notification of Compliance status include the performance test results and be submitted within 120 days of the compliance date. Therefore, to afford sources the full time to conduct the performance test and submit the results of the testing, we have revised our proposal in this final rule to require that sources required to do performance testing submit the Notification of Compliance Status before the close of business of the 60th day following the completion of a performance test.

IV. Exemption of Certain Area Source Categories From Title V Permitting Requirements

We did not receive any comments on our proposal to exempt facilities in the Clay Ceramics and Secondary Nonferrous Metals Processing area source categories from title V permitting requirements. Therefore, this final rule does not require facilities in these source categories to obtain an operating permit under 40 CFR part 70 or part 71.

The proposed Glass Manufacturing Area Source NESHAP would have required affected facilities to obtain title

V permits. Although we received public comments requesting that we exempt the Glass Manufacturing Area Source Category from title V, we are finalizing the approach in the proposed rule and are not exempting the source category from title V. The reasons for this decision are summarized in this notice in the Summary of Comments and Responses section for the Area Source NESHAP for Glass Manufacturing.

V. Summary of Comments and Responses

A. Area Source NESHAP for Clay Ceramics Manufacturing

Comment: One commenter noted that the intent of the CAA, as it relates to the Area Source Program, was to bring about reductions in HAP emissions from area sources. The commenter expressed disappointment that some of the rules proposed under the Area Source Program (e.g., Clay Ceramics Manufacturing) will not result in emissions reductions and recommended that future area source rules incorporate provisions that will provide additional public health protection from the effects of HAP emissions from area sources.

Response: As previously explained, we have determined that GACT for the Clay Ceramics Manufacturing area source category is (1) maintaining the peak firing temperatures of kilns firing glaze ceramic ware below 1540 °C (2800 °F), (2) implementing the equipment requirement (wet control systems for PM emissions) for glaze spray booths at facilities with wet glaze usage above 227 Mg/yr (250 tpy), and (3) implementing the waste minimization practices for glaze spray booths at facilities with wet glaze usage at or below 227 Mg/yr (250 tpy). The use of PM controls and waste minimization practices has been shown to be very effective in controlling PM and metal HAP emissions from this area source category. Keeping kiln peak firing temperatures below the volatilization temperatures of the clay ceramics metal HAP in the spray glazes would also be effective in preventing volatilization of the clay ceramics metal HAP.

The commenter does not challenge any aspect of EPA's proposed GACT determination for this area source category. Instead, the commenter makes a blanket assertion that EPA is not acting consistently with the purposes of the area source provisions in the CAA (i.e., sections 112(c)(3) and 112(k)(3)(B)), because it is not requiring emission reductions beyond the level that is currently being achieved from this well-controlled source category. In support of this assertion, the commenter compares the requirements in the proposed rule to

the area source category's current emission and control status. Such a comparison is flawed and irrelevant.

Congress promulgated the relevant CAA area source provisions in 1990 in light of the level of area source HAP emissions at that time. Congress directed EPA to identify not less than 30 HAP which, as a result of emissions from area sources, present the greatest threat to public health in the largest number of urban areas, and to list sufficient area source categories to ensure that sources representing 90 percent of the 30 listed HAP are subject to regulation. As explained in the Integrated Urban Air Toxics Strategy, EPA based its listing decisions on the baseline National Toxics Inventory (NTI) that the Agency compiled for purposes of implementing its air toxics program after the 1990 CAA Amendments (64 FR 38706, 38711, n.10). The baseline NTI reflected HAP emissions from clay manufacturing area sources in 1990. Thus, contrary to the commenter's suggestion, the relevant emission level for comparison is the emission level reflected in our baseline NTI, not the current emission level.

Furthermore, in promulgating the area source provisions in the CAA, Congress did not require EPA to issue area source standards that must achieve a specific level of emission reduction. Rather, Congress authorized EPA to issue standards under section 112(d)(5) for area sources that reflect GACT for the source category. To qualify as being generally available, a GACT standard would most likely be an existing control technology or management practice. Thus, it is not surprising that the GACT standard being finalized today codifies the existing effective HAP control approach being used by sources in the category. For the reasons stated above, this final rule is consistent with sections 112(c)(3), 112(k)(3)(B), and 112(d)(5).

B. Area Source NESHAP for Glass Manufacturing

1. Definition of Source Category

Comment: Three commenters from companies that make stained glass commented that they own small facilities that operate, with one exception, small periodic furnaces (pot furnaces) that are charged with small amounts of the glass manufacturing metal HAP. They claim that their furnaces would be subject to the emission standards because they use the metal HAP and exceed the 45 Mg/yr (50 tpy) threshold. However, these companies allege that the costs of installing controls on their furnaces could put them out of business. One

commenter stated that some artisans and schools also would be subject to the proposed rule based on the applicability criteria. Two of the commenters suggested that the rule exempt small businesses due to the burden that would result from complying with the proposed requirements. One commenter stated that the rule was based on an analysis of the glass manufacturing industry using data on large continuous furnaces that did not account differences in the manufacturing process and emissions associated with stained glass manufacturing. The commenter stated that the rule should exempt periodic furnaces.

Response: After reviewing the emissions inventory in support of the listing decisions made pursuant to sections 112(c)(3) and 112(k) and available information, we have concluded that the glass manufacturing area source category was listed based on emissions from relatively large manufacturing plants that operated continuous glass furnaces. Periodic furnaces were not included in the inventory.

The 45 Mg/yr (50 tpy) threshold that was proposed was meant to define the source category to include only these large manufacturers, but did not properly reflect this criterion. Therefore, we have revised § 63.11448 to specify that periodic or pot furnaces are not subject to the final Glass Manufacturing Area Source NESHAP. We believe this revision will address most of the concerns of the stained glass manufacturing sector as well as other sectors and organizations, such as artisans, schools, studios, and other small facilities that produce glass using periodic furnaces.

Comment: One commenter stated that flat glass should be excluded from the area source category for several reasons. According to the commenter, flat glass was not identified in the Integrated Urban Air Toxics Strategy as a source category for regulation. Therefore, the commenter suggests that EPA cannot regulate the flat glass industry under an area source standard. The commenter added that the administrative record refers only to pressed and blown glass, which has different Standard Industrial Classification (SIC) and North American Industrial Classification System (NAICS) codes than does flat glass manufacturing. The commenter also stated that the administrative record lacks evidence that flat glass manufacturers emit significant quantities of Urban HAP. The commenter pointed out that the Arsenic NESHAP does not apply to flat glass manufacturing for this same reason.

Finally, the commenter stated that the proposed rule would not require any flat glass manufacturing plants to install or operate emission control devices.

Response: As explained in the **Federal Register** Notice announcing the Integrated Urban Air Toxics Strategy (64 FR 38707, July 19, 1999), the process of listing area source categories for regulation would be an iterative ongoing approach that would be refined and modified as we obtained better data on emissions. Furthermore, as indicated in section 112(e)(4) of the CAA, the listing of a particular source category is not considered final agency action until we issue emission standards for that source category. Therefore, the source category listing is not necessarily limited only to those sources initially identified by the listing. We considered this authority in light of the legislative history regarding glass manufacturing. The flat glass industry sector has always been part of the glass manufacturing industry, as evidenced by environmental statutes including the glass New Source Performance Standard (NSPS), the Arsenic NESHAP, as well as numerous State rules nationwide. Our study of the glass manufacturing industry includes container glass, pressed and blown glass, and flat glass sectors; these are generally similar with respect to the types of raw materials used and furnaces used to melt those raw materials.

Regarding the comment that the administrative record lacks evidence that flat glass manufacturers emit significant quantities of Urban HAP, we point out that the record does show that some flat glass plants emit some of the glass manufacturing metal HAP. Because several flat glass manufacturers do use the glass manufacturing metal HAP in their formulations, and emit metal HAP as a result, because the raw materials and the melting process are the focal points of the proposed Glass Manufacturing Area Source NESHAP, and because of evidence in the legislative history, we determined that it was appropriate to include flat glass within the area source category.

Based on our knowledge of the flat glass industry, the commenter is correct that no existing flat glass plants would have to install additional controls to comply with this final rule. However, there are existing flat glass plants that use the metal HAP as raw materials and will be subject to the other requirements of this final rule. Our data indicate these plants currently meet the emission limits and keep detailed records. Therefore, their additional burden as a result of this final rule is only related to notifications, which we believe are

justified. The notification requirements apply only if the plant uses one or more of the glass manufacturing metal HAP as raw materials; if the plant does not use any of the glass manufacturing metal HAP, this final rule does not apply. In the event that other flat glass manufacturers decide to change their current glass formulations to include metal HAPs, it is appropriate that those flat glass plants be subject to this final rule. Even in such an instance, an existing facility that changed their formulation such that it became subject to the requirements of the rule would have 2 years following the formulation change to comply with this final rule. For these reasons, we have concluded that inclusion of flat glass manufacturers in the Glass Manufacturing Area Source Category is warranted.

Comment: One commenter requested clarification that the proposed rule applies only to area sources and not major sources of HAP emissions.

Response: As specified in § 63.11448, the Glass Manufacturing Area Source NESHAP applies only to area sources of the glass manufacturing metal HAP.

2. Definition of Affected Source

Comment: Two commenters stated that, although the 45 Mg/yr (50 tpy) furnace threshold was meant to exclude small manufacturers, the proposed threshold is less than the amounts that some stained glass manufacturers, glass studios, and schools produce. The commenters believe that a higher threshold level is warranted to ensure that the small facilities that were meant to be excluded would not be subject to this final rule.

Response: Although we considered revising the definition of affected source in response to the commenters' concerns, we have no data to indicate a specific higher threshold and why that threshold would be more appropriate than the 45 Mg/yr (50 tpy) level specified in the proposed rule. However, based on our review of the comments received on the proposed rule and the available data, we have decided to clarify that this final rule only applies to continuous furnaces and not to periodic furnaces. We believe this clarification ameliorates the commenters' concerns regarding the production threshold. In this final rule, we have revised § 63.11448 to apply only to facilities that use continuous furnaces to produce glass.

Comment: Two commenters expressed concern with the definition of affected source (i.e., furnace). Both commenters stated that the definition in the proposed rule, which was adopted

from 40 CFR 60, subpart CC, Standards of Performance for Glass Manufacturing Plants (Glass NSPS), defines furnace to include the "raw material charging system" and "appendages for conditioning and transferring molten glass to forming machines." One commenter pointed out that, in the proposed rule, compliance is demonstrated by testing the furnace stack. However, emissions from the "charging system" or "appendages" are not generally ducted to the furnace stack. The commenter stated that furnace was defined as it was in the NSPS to clarify what constitutes a modification; the definition was not meant to identify emission points or where stack testing should be performed. The other commenter explained that one of the company's plants adds colored frit to the molten glass in the forehearth, which is one of the "appendages" referenced in the definition of furnace. The commenter pointed out that emissions from the forehearth are not ducted to the furnace stack. Since the GACT analysis for glass furnaces was based on emissions from furnace stacks, the proposed emission limits should not apply to emissions from forehearths.

Response: In developing the proposed rule, we determined GACT for this source category based on technology used to reduce emissions from glass melting furnace stacks. Glass furnace stacks generally exhaust emissions from the furnace melter, which is the part of the furnace where raw materials are charged and melted. Although furnace stacks may also exhaust emissions from other parts of, or appendages to, the furnace, it was our intent to regulate emissions from the furnace melter. This is consistent with our understanding of the emissions profile of glass manufacturing raw materials; that is, metal HAP are emitted from glass furnaces upon the initial melting step. Later remelting of glass, such as cullet and frit, does not re-emit the metal HAP once the glass has been formed or vitrified.

To clarify this requirement, we have revised § 63.11459 of this final rule to redefine the glass melting furnace as the " * * * process unit in which raw materials are charged and melted at high temperature to produce molten glass." In addition, we have added to § 63.11459 a definition of furnace stack as the conduit or conveyance through which emissions from the furnace melter are released to the atmosphere. We also have revised § 63.11452 in this final rule to clarify that compliance with the emission limits is determined by testing the furnace stack.

Comment: One commenter requested that the rule exempt furnaces that are used strictly for R&D.

Response: We agree with the commenter that this final rule should clarify that sources that are used exclusively for R&D purposes are not regulated by this rule because these sources were not part of the inventory. Therefore, we have added a provision to § 63.11449 that clarifies that such furnaces are not covered by this final rule. We also have added to § 63.11459 of this final rule a definition for research and development process units.

Comment: Three commenters stated that the rule should specify a *de minimis* level for metal HAP usage, below which plants would have no requirements. Two of the commenters suggested setting annual *de minimis* levels for each regulated HAP, below which the rule limit would not apply.

Response: With respect to the use of the glass manufacturing metal HAP in relatively small amounts, the proposed 0.01 g/kg (0.02 lb/ton) metal HAP emission limit should address the commenters' concerns. If metal HAP are added to the batch in very small amounts, compliance with the HAP emission limit could be achieved without having to install a control device on the affected furnace.

It is appropriate under the area source program that glass manufacturers using large amounts of metal HAP in their furnaces install controls to reduce those emissions. Therefore, we have concluded that it would not be appropriate to develop *de minimis* levels for metal HAP usage.

Comment: One commenter stated that the rule does not define reconstruction as it pertains to reconstructed sources. The commenter suggested that the NSPS definition of reconstruction be adopted or incorporated by reference.

Response: Although the proposed rule did not define reconstruction, § 63.11472 states that the definitions specified in the CAA and § 63.2 of the General Provisions to part 63 also apply to the proposed rule. This is the definition of reconstruction that applies to all part 63 standards. Therefore, we believe it is the appropriate definition for the Glass Manufacturing Area Source NESHAP.

Comment: One commenter addressed the applicability of the proposed rule for furnaces that are used both for making glass that does not contain metal HAP and glass that contains metal HAP. The commenter asked if the 45 Mg/yr (50 tpy) threshold that defines an affected source is based only on the amount of HAP-containing glass produced or on the total amount of glass produced, even

if the amount of HAP-containing glass was less than 45 Mg/yr (50 tpy).

Response: It was our intent for the rule to apply to furnaces that produce at least 45 Mg/yr (50 tpy) of glass that contains one or more of the glass manufacturing metal HAP as raw materials. Therefore, a furnace that produces more than 45 Mg/yr (50 tpy) of glass would not be subject to this final rule if the amount of HAP-containing glass produced in the furnace were less than 45 Mg/yr (50 tpy). We have revised the definition of affected source in § 63.11449 to clarify that a source is an affected source only if it produces at least 45 Mg/yr (50 tpy) of glass that contains one or more of the metal HAP as raw materials.

3. Regulated Pollutants

Comment: One commenter stated that the rule should not regulate arsenic because arsenic emissions are already regulated under the Glass Arsenic NESHAP. The commenter believes that the requirements for both rules will create overlapping and sometimes conflicting requirements. The commenter added that the reporting and recordkeeping burden for a second rule to regulate the same pollutant would be excessive.

Response: The listing of glass manufacturing as an area source category was based in part on arsenic, which was identified in the section 112(k) inventory as one of the HAP emitted by glass manufacturing facilities. Therefore, we are required under sections 112(c)(3) and (d) of the CAA to regulate emissions of arsenic from glass manufacturing plants that are area sources of HAP based on GACT for the glass manufacturing industry.

With respect to the burden associated with complying with both rules, we have tried to minimize the burden associated with the Glass Manufacturing Area Source NESHAP. This final rule will require affected plants to submit an Initial Notification and a Notification of Compliance Status, but will require no additional reporting. Furthermore, the recordkeeping requirements are similar for both the proposed rule and the Glass Arsenic NESHAP. Therefore, we disagree that the reporting and recordkeeping burden associated with complying with both rules will be excessive. With respect to monitoring, the Glass Area Source NESHAP allows affected sources to request approval of alternative monitoring, which likely would result in no changes to the monitoring that is currently performed to comply with the Glass Arsenic NESHAP. In terms of testing, the Glass Area Source NESHAP requires only a

one-time test and includes a provision for using data from a previous emission test conducted within the last 5 years, if the test demonstrates compliance with the emission limits specified in the Glass Area Source NESHAP.

4. Title V Permitting

Comment: Two commenters addressed EPA's decision to not exempt the Glass Manufacturing Area Source Category from title V permitting. Both commenters disagreed with the statement in the preamble to the proposed rule that all of the facilities that would be affected by the proposed rule are already subject to title V. One commenter stated that at least one of the company's facilities, which is not subject to title V, would be subject to the proposed rule. The commenter also stated that EPA's reasons for exempting the Clay Ceramics Manufacturing and Secondary Nonferrous Metals Processing Source Categories from title V permitting also apply to the Glass Manufacturing Source Category. The other commenter stated that the company operates two plants that are not currently subject to title V, each with a furnace that would be subject to the proposed rule. Although both furnaces are scheduled for shutdown, the company may reconsider this decision to shut them down if market conditions change. The same commenter stated that it is possible that there are other non-title V facilities that would be subject to the proposed rule, and that it appears it was EPA's intent for the proposed rule to not cause additional facilities to become subject to title V. Both commenters requested that the proposed rule provide title V exemptions for facilities that are not currently subject to title V permitting.

Response: Section 502(a) of the CAA requires sources subject to regulation under section 112 of the CAA to obtain a permit to operate. However, Section 502(a) authorizes the Administrator, in his discretion, to "promulgate regulations to exempt one or more source categories (in whole or in part) from the requirement of (title V) if the Administrator finds that compliance with such requirements is impracticable, infeasible, or unnecessarily burdensome on such categories * * *." EPA promulgated a rule interpreting section 502(a) and therein stated that EPA may only exempt a category from title V permitting if we find compliance to be "impracticable, infeasible, or unnecessarily burdensome" and we determine that exempting the category would not adversely affect public health, welfare, or the environment (see

70 FR 75,320, 75,323 (Dec. 19, 2005)). Nowhere in the rule did we establish a presumption in favor of exempting sources from title V permitting, and the statute leaves such determinations to the discretion of the Administrator.

The commenters have identified three glass manufacturer area source plants that are currently not subject to the operating permit requirements of CAA title V, which renders incorrect our assertion at proposal that all glass manufacturers that would be subject to this final rule were already subject to title V requirements. Notwithstanding this error, comments and other information in the record for this rulemaking do not demonstrate that compliance with title V permitting would be impracticable, infeasible, or unnecessarily burdensome for the sources in this category. Other than these two comments, we did not receive information during the comment period indicating that there are other sources that will be subject to this rule that do not have title V permits already. In this case, more than 80 percent of the sources in the category have title V permits, and of the 3 facilities that do not have such permits, the affected furnaces at two of those facilities are currently scheduled for shutdown. Based on these facts, it is not readily apparent why it would be impracticable, infeasible, or unnecessarily burdensome for sources in this category to comply with the title V requirements.

The two commenters that opposed our decision to not exempt the Glass Manufacturing Area Source Category from title V permitting did not identify their plants in question, did not explain how those plants differed in any way from other plants in this category that currently hold a title V permit, and did not explain how those differences would be relevant to the criteria for an exemption from title V.

For example, one commenter supported its request for exempting its two plants from title V by stating a desire for flexibility in the event that one or more of the affected furnaces at the plants actually do not shut down. (As noted above, the commenter's current plan is to shut down the affected furnaces at these two facilities.) Source flexibility, while important, is not a factor EPA considers in determining whether to exempt a source from title V permitting requirements.

The second commenter seeking a title V exemption for the glass manufacturing source category asserted that the reasons for exempting the other two source categories addressed in today's notice (Clay Ceramics Manufacturing and Secondary Non-ferrous Metals

Processing area sources) applied equally to this category. The commenter, however, offered no information substantiating this assertion, and we cannot dismiss obvious differences between the glass manufacturing source category and the source categories which received a title V exemption. These differences include whether most of the category already has a title V permit and whether most of the category is composed of small businesses that would incur economic hardship were title V requirements imposed on them.

The decision to exempt a source category is made on a case-by-case basis according to the facts of the industry. According to information we have collected on the glass manufacturing area source category, we conclude, in the absence of contrary information, that a title V exemption for this area source category is not warranted. Therefore, in light of the lack of information supporting an exemption of this source category from the title V requirements, we have not exempted the Glass Manufacturing Area Source Category from title V under today's rule.

5. Emission Limits

Comment: One commenter stated that, although emissions from glass furnaces vary by the type of glass produced, the proposed emission limits do not account for the relationship between PM emissions and glass type. The commenter noted that the Glass NSPS accounts for these differences by specifying different PM emission limits depending on the glass formulation and fuel type. The commenter explained that the differences in PM emissions result from differences in the volatilization rate of the constituents of the glass recipe. The commenter suggested that the proposed rule adopt the NSPS emission limits to account for these differences and to avoid confusion.

Response: While the Glass NSPS does regulate glass manufacturing furnaces for emissions of PM, the purpose of the proposed area source NESHAP is to address metal HAP emissions from continuous glass manufacturing furnaces.

Section 112(d)(5) of the CAA requires us to develop emission limits to reduce HAP emissions from area sources based on GACT. For the Glass Manufacturing Area Source Category, we determined GACT to be the level of control achieved by an ESP. In developing the PM emission limit for the proposed rule, our approach was to consider all of the available data on ESP-controlled PM emissions from glass manufacturing furnaces. Those data do not indicate

that the variations in PM emissions due to glass formulation that are reflected in the emission limits of the Glass NSPS are appropriate for this rule. For example, the NSPS emission limits (in the format of PM emission factors) are higher for pressed and blown glass formulations than for container or flat glass formulations. However, the data used in developing the proposed PM emission limit do not indicate that controlled PM emissions from pressed and blown glass furnaces are higher than PM emissions from container or flat glass furnaces. In fact, the data with the lowest emission factors are from controlled pressed and blown glass furnaces. Although there are several possible explanations for this discrepancy, we point out that the NSPS emission limits are based on data from the 1970s and may not be representative of current glass manufacturing furnace PM emissions and control device performance. In conclusion, we developed the proposed PM emission limit based on the best available data, and because those data do not indicate variations in controlled PM levels due to glass formulation, we are not adopting the NSPS emission limits or differentiating by glass formulation, as suggested by the commenter.

Comment: One commenter pointed out that many existing glass furnaces comply with the Glass NSPS using modified processes without having to install emission controls. The commenter urged EPA to consider incorporating in this final rule the alternate emission limits for modified processes established in the NSPS. The commenter explained that the cost to retrofit a glass furnace with a control device is prohibitive, particularly in view of the amount of metal HAP reduced by such controls.

Response: The Glass NSPS defines modified process as “* * * any technique designed to minimize emissions without the use of add-on pollution controls.” Thus, even though the regulated pollutant for the Glass NSPS is PM, the term “modified process” can apply to emissions of any pollutant. Several glass manufacturing furnaces subject to the NSPS have used this provision for meeting the less stringent PM emission limits for modified processes by installing controls or process modifications to reduce emissions of other pollutants, such as nitrogen oxides (NO_x). However, under Section 112(d) of the CAA, we are required to establish area source standards specifically for emissions of the Urban HAP. Furthermore, we are required to base those emission standards on GACT. As

noted above, we determined GACT for this source category based on the level of control achieved by an ESP in controlling metal HAP emissions, and for controlling PM emissions as a surrogate for metal HAP emissions.

We understand that the costs of installing an ESP or equivalent control device on a glass furnace can be high. For example, we estimate the capital costs for installing a control device on a typical container furnace to be \$800,000. However, our economic analysis of the industry indicates that the compliance costs for this final rule would be no more than 1 percent of sales, which we do not consider to be prohibitive. Although the metal HAP emissions reductions from an affected facility may be relatively low in terms of control costs, we note that, for facilities that use very small amounts of metal HAP in their glass formulations, the 0.01 g/kg (0.02 lb/ton) metal HAP emission limit can be met without having to install a control device. Finally, in addition to reductions in HAP emissions, the Glass Manufacturing Area Source NESHAP also will achieve significant reductions in fine PM emissions and will result in significant health benefits as a result of those reductions.

Comment: One commenter stated that the proposed rule should incorporate factors to account for emissions during periods of low production, similar to the “zero production rate” factors specified in the Glass NSPS. The commenter reasoned that, without these factors, there will be confusion. Although the PM emission limit in the proposed rule (0.1 g/kg (0.2 lb/ton)) is the same as the NSPS limit for container glass furnaces and for soda lime and lead pressed and blown glass furnaces, the NSPS includes the zero production rate factor, whereas the proposed rule does not incorporate such a factor.

Response: We appreciate the need to avoid confusion and to promote clarity in rulemaking, and we are sensitive to the need to implement the rule with easily understood materials and clear instruction. To that end, EPA currently plans to provide implementation guidance to minimize confusion that may be caused by the applicability of three Federal air pollution regulations that apply to this industry sector: the Arsenic NESHAP, the Glass NSPS, and this Area Source NESHAP. However, we have concluded that it would not be appropriate to incorporate one or more zero production rate factors in the final rule as suggested by the commenter. As specified in § 63.11452(b)(4), compliance with the emission limits in the proposed rule must be determined

through emission testing when the furnace is operating at maximum production rate. Therefore, emission levels when the furnace is operating at low production rates are not relevant with respect to compliance with the emission limits. If the rule were to require demonstrating compliance with the emission limits on a continuous basis, such as by using a continuous emissions monitoring system, it could be argued that there is reason to incorporate a zero production rate factor. In such a case, the emission factor would likely increase as production approached zero, and at zero production, the emission factor would be undefined. However, that is not the case for the proposed rule, which requires parameter monitoring and recordkeeping to demonstrate continuous compliance. Finally, it should be noted that the proposed emission limits were developed from data that did not account for zero production rate emissions. Furthermore, specifying an emission limit without zero production rate factors is consistent with other NESHAP.

Comment: One commenter questioned whether the proposed emission limits were based on data exclusively from large furnaces. The commenter explained that, when emissions are normalized for production, as is the case for the proposed emission factor format, they may not be representative of emissions from small furnaces if the limits are based on data from large furnaces. The commenter stated that, since the rule is likely to apply to small furnaces, the proposed limits should account for the higher emission factors characteristic of smaller furnaces. The commenter's company operates a small furnace that would be subject to the rule, as proposed, but would not be able to meet the proposed emission limit, even though the furnace is exhausted to a fabric filter. The commenter stated that a control efficiency of 99.91 percent would be needed for the furnace to meet the proposed limit. The commenter suggested including a correction factor for small furnaces, such as the zero production rate factors specified in the Glass NSPS, to account for this difference in emission levels between large and small furnaces.

Response: In developing the emission limits for the proposed rule, we reviewed all available emission test data on controlled furnaces, which included the results of tests on a wide range of furnace sizes or production rates. Because the production data for many of the furnaces were claimed as confidential business information, we cannot release the actual production

rates to the public. However, we can provide information on the range of the data. The production data for the furnaces used to develop for the PM emission limit ranged from less than 0.9 megagram per hour (Mg/hr) (1 ton per hour (tph)) to just under 27 Mg/hr (30 tph). Of the 19 data points used, 3 data points were for furnaces with production rates of less than 0.9 Mg/hr (1 tph) and 9 data points were for furnaces with production rates less than 4.5 Mg/hr (5 tph). To develop the metal HAP emission limit, the furnace production rates ranged from less than 0.9 Mg/hr (1 tph) to just under 23 Mg/hr (25 tph). Of the 15 data points used, the production rates for 2 furnaces were less than 0.9 Mg/hr (1 tph), and the rates for 9 furnaces were less than 4.5 Mg/hr (5 tph). Although the commenter did not specify the actual production rate for the furnace in question, furnaces with production rates less than 4.5 Mg/hr (5 tph) would most likely be considered small and furnaces with production rates less than 0.9 Mg/hr (1 tph) would certainly be considered small. Therefore, we disagree with the commenter's assumption that only data from large furnaces were used to develop the proposed emission limits.

Although the commenter's suggestion about including a zero production rate factor would reduce the stringency of the standard for small furnaces, we do not believe such a factor is needed for the reasons described in the previous paragraph. Furthermore, as discussed in our response to the previous comment, we do not believe a zero production rate factor is relevant for an emission limit that must be demonstrated by testing when the source is operating at the maximum production rate.

Comment: One commenter stated that the process of manufacturing glass tableware is significantly different from container glass due to the need for higher quality requirements. The raw material formulations differ, and tableware furnaces operate at higher temperatures with longer residence times. Tableware furnaces also are smaller. The commenter stated that the South Coast Air Quality Management District uses an emission factor for tableware furnaces that is nearly five times the factor used for container glass furnaces.

Response: We acknowledge that PM emissions from glass furnaces can vary as a function of the type of glass produced. We also recognize that glass tableware manufacturing is generally classified as a type of pressed and blown glass rather than container glass, and PM emission factors for pressed and blown glass furnaces typically are

greater than PM emission factors for container glass furnaces. When determining GACT for the proposed rule, we used all the available data on emissions of PM and metal HAP from furnaces controlled with ESP. Most of the data used in developing the proposed emission factors were from emission tests on pressed and blown glass furnaces. Therefore, we believe those emission limits are generally representative of the emission levels that can be achieved by an ESP-controlled furnace manufacturing pressed and blown glass. We also point out that the NESHAP specifies a metal HAP emission limit which may be more appropriate for specific furnaces that have unusually high PM emissions.

Commenter: One commenter noted that the proposed GACT does not take into consideration the unique nature of the stained glass industry, which generally uses small periodic furnaces rather than large continuous furnaces to produce glass. The commenter believes stained glass manufacturing should be a separate subcategory with GACT defined in terms of the practices and emission reduction methods followed by stained glass manufacturers.

Response: Although we conducted an extensive information gathering effort to compile data for developing the proposed NESHAP, we had little data on the stained glass sector and no basis for identifying stained glass as a separate subcategory of the glass manufacturing industry. We agree with the commenter that GACT for stained glass, if identified as a subcategory, should be based on methods and practices used by that sector to reduce metal HAP emissions. Although we still do not have the data to warrant creating a separate subcategory for stained glass, we have revised § 63.11448 of the rule to clarify that the rule applies to continuous furnaces and not to periodic furnaces. In doing so, we believe we have addressed the commenter's concerns.

6. Compliance Dates

Comment: One commenter stated that most glass manufacturing furnaces are rebuilt every 10 to 15 years. The commenter suggested that the compliance date for an existing furnace should coincide with the next rebuild planned for that furnace. Otherwise, affected facilities would have to install controls "on the fly," and doing so would interrupt glass production by forcing the facility to shut down affected furnaces for long periods. These shutdowns would result in significant costs to the affected facilities. The commenter pointed out that these costs

were not accounted for in the estimated cost effectiveness and impacts for the proposed rule.

Response: Section 112(i) of the CAA specifies that NESHAP require compliance “* * * as expeditiously as practicable, but in no event later than three years after the effective date* * *” of the standard. Since we had no information indicating this would be the case for the glass manufacturing industry, we proposed a compliance date of 2 years after promulgation of this final rule, which is consistent with the compliance date for other NESHAP. We believe this provision should allow adequate time for affected sources to install the controls needed to comply with this final rule. However, in the event that 2 years is not adequate, § 63.6(i)(3) of the General Provisions to part 63 allows owners or operators of affected facilities to request a 1-year extension of the compliance date if they can demonstrate that they need the additional time to install controls.

Comment: One commenter noted that additional time is needed for reconstructed furnaces to install controls. The company is rebuilding several furnaces in 2008, which would make them reconstructed furnaces. The compliance date for reconstructed sources would be the startup date (sometime in 2008), but it will take additional time to design, receive, and install a control device on the reconstructed furnaces.

Response: The General Provisions to 40 CFR part 63 define “new source” to include reconstructed sources, and for sources subject to 40 CFR part 63 standards, the compliance date for new sources is dictated by § 63.6(b) of the General Provisions to part 63. That is, new sources must be in compliance on the effective date of the rule or upon startup, whichever is later. Based on the limited facts submitted by the commenter, it is unclear if the subject furnaces would be considered existing furnaces or new furnaces. The General Provisions to part 63 define “commenced” as it relates to reconstruction as entering “* * * into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or reconstruction.” The commenter should evaluate the facts of its particular situations in light of the definitions incorporated into this final rule.

7. Other Compliance Requirements

Comment: One commenter identified an issue concerning furnaces that are used both for making glass that does not contain metal HAP and for making glass

that contains metal HAP. The commenter requested clarification of the compliance requirements when the affected furnace is not producing glass that contains metal HAP.

Response: We agree with the commenter that additional clarification is needed on furnaces that are used to produce HAP-containing glass and non-HAP glass. Our intent was that the emission limits and other compliance requirements would apply when the affected furnace is producing glass that contains one or more of the glass manufacturing metal HAP. We have revised § 63.11454 to clarify that the monitoring requirements apply only during times when any of the glass manufacturing metal HAP are used in the glass being produced. We also have revised § 63.11455 to clarify that the continuous compliance requirements apply under the same conditions. However, owners and operators must still keep the applicable records specified in § 63.11457, including records of production data, during any period when an affected furnace is operated, regardless of the batch formulation used.

Comment: One commenter stated that the rule is unclear on the continuous compliance requirements for existing sources, particularly for sources that meet the metal HAP emission limit without having to install a control device.

Response: We agree with the commenter that additional clarification is needed regarding continuous compliance requirements for affected furnaces that meet the emission limit without the use of an emission control device. We have revised § 63.11455 of this final rule to clarify how owners or operators of affected sources must demonstrate continuous compliance. For the specific case cited by the commenter, the only continuous compliance requirement would be the recordkeeping requirements specified in § 63.11457.

Comment: One commenter stated that, even if a plant could meet the emission limit without installing a control device, the reporting and recordkeeping requirements of the rule are unnecessarily burdensome.

Response: We disagree that the reporting and recordkeeping requirements of the proposed rule are overly burdensome. This final rule will require affected plants to submit an Initial Notification and a Notification of Compliance Status, but will require no reporting. As for the recordkeeping requirements, the proposed rule incorporates the basic requirements specified in the General Provisions to

part 63, and our understanding is that most facilities routinely maintain these records.

8. Emission Testing

Comment: Two commenters requested clarification of how emissions are tested and analyzed to show compliance with the proposed metal HAP emission limit. Both pointed out that the test method (Method 29) quantifies a wide range of metals, including metals that are not urban HAP and urban HAP metals that may not have been charged to the furnace as raw materials but could be present as contaminants in charge materials or fuels. The commenters stated that the rule should specify that emissions should be analyzed only for the metal HAP that are intentionally added to the batch as raw materials.

Response: We agree with the commenters that the testing requirements specified in the proposed rule need further clarification regarding how the sampled emissions are analyzed. We have revised § 63.11452 in this final rule to clarify Equation 2, which is used to determine compliance with the metal HAP emission limit. We have defined the variable “ERM” in this final rule as the sum of the mass emission rates for the glass manufacturing metal HAP that are charged to the furnace as raw materials. We believe this revision addresses the commenters’ concern.

Comment: One commenter noted the definition of PM in the rule is ambiguous and could be interpreted to include filterable PM and condensable PM. Because the rule requires testing by Methods 5 or 17, and both of those methods measure filterable PM, the rule needs to clarify that the proposed PM emission limit refers to filterable PM. The commenter suggested that removing the word “total” from the definition would eliminate this ambiguity.

Response: We agree with the commenter and have revised the definition of PM in § 63.11458 by replacing the phrase “total particulate emissions” with “filterable particulate emissions.” This revised definition is consistent with the test methods (Methods 5 and 17) that are specified for determining compliance.

Comment: One commenter operates several identical furnaces that would be subject to the proposed rule. The commenter requested that the rule require testing on only one such furnace rather than on all of them.

Response: We agree with the commenter that it should not be necessary to test multiple identical furnaces to demonstrate that all of the furnaces meet the emission limit. To

address this issue, we revised § 63.11452(a) by adding paragraph (a)(3), which specifies conditions under which testing of a single furnace would be allowed as the compliance demonstration for other identical furnaces. Specifically, the owner or operator must certify that the furnaces that are not tested are identical in design to the furnace that is tested, including manufacturer, dimensions, production capacity, charging method, operating temperature, fuel type, burner configuration, and exhaust system configuration and design. Furthermore, the compliance test must be performed while the furnace is producing the glass formulation with the greatest potential to emit the glass manufacturing metal HAP, and the owner or operator must provide documentation that demonstrates why the tested glass formulation has the greatest potential to emit metal HAP.

9. Other Issues

Comment: Two commenters requested clarification of the definition of raw material. The commenters stated it was not clear if cullet is considered a raw material, and they suggested revising the definition to exclude cullet. One of the commenters suggested adding the phrase "excluding glass manufacturing metal HAP that are introduced as cullet, trace constituents, or contaminants of other substances" to §§ 63.11448 and 63.11449(a)(1) to clarify what is considered a raw material. The other commenter suggested revising the definition of raw material to exclude material captured by control devices and recycled into the process.

Response: We agree with the commenters that the proposed rule is not clear on whether or not cullet is considered a raw material. We also agree that material that is captured in a furnace control device and recycled should not be considered a raw material. We have revised the definition of raw material to state that cullet and material captured by the furnace control device are excluded. However, this definition does not exclude material collected from other sources, such as from fabric filters that are used to control emissions from raw material handling or transporting, because, while pre-vitrified materials do not re-emit metal HAP when remelted, baghouse fines from raw material handling and transporting have not been previously vitrified.

Comment: One commenter stated that the rule is unclear as to the notification requirements for furnaces that, at the time of promulgation, were not subject, but later became subject due to

increased production or changes in glass formulation.

Response: To address the commenter's concern, we have revised § 63.11456(a) to indicate that the Initial Notification is due 120 days after the furnace becomes subject to this final rule due to increased production or changes in glass formulation. We also have revised § 63.11456(a) to specify deadlines for submitting the Notification of Compliance Status.

C. Area Source NESHAP for Secondary Nonferrous Metals Processing

Comment: One commenter noted that the intent of the CAA, as it relates to the Area Source Program, was to bring about reductions in HAP emissions from area sources. The commenter expressed disappointment that some of the rules proposed under the Area Source Program (e.g., Secondary Nonferrous Metals Processing) will not result in emissions reductions and recommended that future area source rules incorporate provisions that will provide additional public health protection from the effects of HAP emissions from area sources.

Response: As previously explained, we have determined that GACT for the Secondary Nonferrous Metals Processing area source category is the use of a baghouse or fabric filter that achieves a control efficiency of 99 percent for existing sources and 99.5 percent for new sources.^c The use of baghouses and fabric filters has been shown to be very effective in controlling PM and metal HAP emissions from this area source category. The commenter does not challenge any aspect of EPA's proposed GACT determination for this area source category. Instead, the commenter makes a blanket assertion that EPA is not acting consistently with the purposes of the area source provisions in the CAA (i.e., sections 112(c)(3) and 112(k)(3)(B)), because it is not requiring emission reductions beyond the level that is currently being achieved from this well-controlled source category. In support of this assertion, the commenter compares the requirements in the proposed rule to the area source category's current emission and control status. Such a comparison is flawed and irrelevant.

Congress promulgated the relevant CAA area source provisions in 1990 in light of the level of area source HAP emissions at that time. Congress directed EPA to identify not less than 30

HAP which, as a result of emissions from area sources, present the greatest threat to public health in the largest number of urban areas, and to list sufficient area source categories to ensure that sources representing 90 percent of the 30 listed HAP are subject to regulation. As explained in the *Integrated Urban Air Toxics Strategy*, EPA based its listing decisions on the baseline NTI that the Agency compiled for purposes of implementing its air toxics program after the 1990 CAA Amendments. 64 FR 38706, 38711, n. 10. The baseline NTI reflected HAP emissions from glass manufacturing area sources in 1990. Thus, contrary to the commenter's suggestion, the relevant emission level for comparison is the emission level reflected in our baseline NTI, not the current emission level.

Based on EPA's baseline NTI, emissions of urban metal HAP from this area source category have been reduced from approximately 25 Mg/yr (28 tpy) to less than 0.9 Mg/yr (1 tpy) since 1990. Furthermore, in promulgating the area source provisions in the CAA, Congress did not require EPA to issue area source standards that must achieve a specific level of emission reduction. Rather, Congress authorized EPA to issue standards under section 112(d)(5) for area sources, and those standards are to reflect GACT for the source category. To qualify as being generally available, a GACT standard would most likely be an existing control technology or management practice. Thus, it is not surprising that the GACT standard being finalized today codifies the existing effective HAP control approach being used by sources in the category. For the reasons stated above, this final rule is consistent with sections 112(c)(3), 112(k)(3)(B), and 112(d)(5).

D. Area Source NESHAP—General

Comment: A commenter expressed his "understanding that Congress only gave EPA [the authority] to establish requirements for new * * * [sic] major sources under the MACT and NSPS standards, and not new area sources." The commenter further claimed that new area sources are the "jurisdiction" of State and local authorities. The commenter also expressed the policy objection "that to allow EPA to establish new and modified source requirements is tantamount to overriding the authority given the States and locals for establishing Best Available Control Technology (BACT) through their new source review programs." The commenter further questioned which standard would apply to a new area source if EPA established GACT requirements on a new source, and

^c As previously explained, we have determined that outlet concentration limits of 0.034 g/dscm (0.015 gr/dscf) and 0.023 g/dscm (0.010 gr/dscf) reflect the GACT levels of control for existing and new secondary nonferrous processing area sources, respectively.

these requirements were to differ from BACT requirements in the NSR permit for the source.

Response: The comment above raises issues of EPA's authority for establishing GACT for new area sources and the appropriateness of potentially "overriding" locally-made BACT determinations for such sources. As generally discussed in the background section of this final rule, section 112 explicitly requires that EPA list categories of major sources, 42 U.S.C. 7412(c)(1), and area sources if those area sources meet the listing criteria in 42 U.S.C. 7412(c)(3). Furthermore, the statute requires EPA to promulgate emission standards for all listed categories whether the category is composed of major sources of HAP or area sources and directs that these standards address new as well as existing sources (42 U.S.C. 7412(d) & 7412(f)(2)). For area sources, Congress has provided EPA the option to promulgate GACT in lieu of MACT standards (42 U.S.C. 7412(d)(5)). In establishing timeframes for compliance for "any emission standard, limitation or regulation promulgated under this section [i.e., section 112]," Congress allowed for different compliance dates for new and existing sources (42 U.S.C. 112(i)(3)). This provision reinforces Congress's intent that standards under section 112, including the required area source standards, address both new and existing sources. Therefore, the commenter's understanding of EPA's authority does not reflect these express provisions of the statute. Based on these statutory provisions, EPA disagrees with the commenter's position that EPA lacks authority to establish GACT for new area sources.

Regarding the appropriateness of what the commenter calls "overriding" the authority to set BACT and BACT limits, we agree that there is a theoretical possibility inherent in the statute to have a GACT standard differ in stringency with a BACT limit in a permit. Initially, we note that BACT is triggered by the emission of different pollutants than those regulated under section 112 (see 42 U.S.C. 7412(b)(6)). The applicability provisions differ, and a major source under one program may or may not be a minor or area source under the other. Nevertheless, in many circumstances, a BACT limit targeting one pollutant may also, in effect, limit HAP emissions, and a HAP limit may incidentally limit a pollutant to which BACT would apply. It is a requirement for the owner or operator of a stationary source to comply with all air pollution control obligations that apply to the source under the CAA. To the extent

that these obligations conflict and cannot be met simultaneously, the statute and EPA's regulations provide several mechanisms for resolving conflicts (e.g., provisions for developing alternate control and monitoring requirements, delegation mechanisms that allow States and local agencies to develop approvable alternate standards, etc.).

Comment: One commenter recommended that EPA provide State and local agencies with sufficient additional grants so that they may participate in the implementation of additional area source rules. According to the commenter, Federal grants currently fall far short of what is needed to support State and local agencies in carrying out their existing responsibilities, and budget requests for the last two years have called for additional cuts. The commenter claimed that, without additional funding, some State and local air agencies may not be able to adopt and enforce additional area source rules. The commenter further stated that, even for permitting authorities that do not adopt these area source rules, it is possible that these rules will increase their work loads and resource needs. The commenter stated that, for example, synthetic minor permits (or Federally Enforceable State Operating Permits) will need to incorporate all applicable requirements, including area source standards. Noting that the title V permit fee funds are not available for these efforts, the commenter asserted that many State and local air agencies do not have sufficient resources for these responsibilities.

Response: State and local air programs are an important and integral part of the regulatory scheme under the CAA. As always, EPA recognizes the efforts of State and local agencies in taking delegations to implement and enforce CAA requirements, including the area source standards under section 112. We understand the importance of adequate resources for State and local agencies to run these programs; however, we do not believe that this issue can be addressed through this rulemaking.

EPA today is promulgating standards for the Secondary Nonferrous Metals Processing, Glass Manufacturing, and Clay Ceramics Manufacturing area source categories that reflect the practices currently in use by sources in these area source categories, and these standards represent what constitutes GACT for these categories under section 112(d)(5). GACT standards are technology-based standards. The level of State and local resources needed to implement these rules is not a factor

that we consider in determining what constitutes GACT under section 112(d)(5). Moreover, we note that the commenter did not challenge our proposed determination to exempt from title V the Secondary Nonferrous Metals Processing or Clay Ceramics Manufacturing area source categories.

Although the resource issue cannot be resolved through this rulemaking for the reason stated above, EPA remains committed to working with State and local agencies to implement this final rule. State and local agencies that receive grants for continuing air programs under CAA section 105 should work with their project officer to determine what resources are necessary to implement and enforce the area source standards. EPA will continue to provide the resources appropriated for section 105 grants consistent with the statute and the allotment formula developed pursuant to the statute.

VI. Impacts of the Final Area Source Standards

A. Glass Manufacturing

1. Air Quality Impacts

For the three sources that will be required to install emission controls to meet the emission limits specified in this final rule, we estimate nationwide emissions of the glass manufacturing metal HAP to be 26.2 Mg/yr (28.9 tpy). We estimate that this final rule will reduce nationwide emissions of the glass manufacturing metal HAP by about 25.6 Mg/yr (28.2 tpy). This final rule will also reduce emissions of PM by 377 Mg/yr (415 tpy). These estimates are based on the assumption that an ESP will be installed on one pressed and blown glass furnace, and that fabric filters will be installed on two pressed and blown glass furnaces.

We project that, during the first three years of the standard, nine new furnaces will be constructed and that all nine furnaces will be in the container glass sector. Because none of these new furnaces are expected to use any of the glass manufacturing metal HAP as raw materials, we project that none of the nine new furnaces will be affected by this final rule. Therefore, we estimate that this final rule will have no air quality impacts on new sources.

Indirect or secondary air impacts of this final rule will result from the increased electricity usage associated with the operation of control devices. Assuming that plants will purchase electricity from a power plant, we estimate that the final standards will increase secondary emissions of criteria pollutants, including PM, sulfur dioxide (SO₂), NO_x, and carbon monoxide (CO)

from power plants. For the three existing sources that will be required to install emission controls, this final rule will increase secondary PM emissions by 0.28 Mg/yr (0.31 tpy); secondary SO₂ emissions by about 11.1 Mg/yr (12.2 tpy); secondary NO_x emissions by about 5.5 Mg/yr (6.1 tpy); and secondary CO emissions by about 0.18 Mg/yr (0.20 tpy).

For the estimated nine new sources within the Glass Manufacturing industry over the next three years, we estimate no secondary air impacts because we project that none of the new sources will be affected sources under this rule.

2. Water and Solid Waste Impacts

To comply with this final rule, we expect that affected facilities will control emissions by installing and operating ESP or fabric filters, neither of which generates wastewater. Therefore, we project that this final rule will have no water impacts. Glass manufacturers typically purchase highly refined and purified raw materials, and they usually recycle internal captured baghouse and ESP fines into the raw material to be fed back into the furnace. Therefore, we expect the solid waste impacts to be far less than if facilities were to dispose of their ESP and baghouse fines. We estimate that this final rule will generate 37.7 Mg/yr (41.6 tpy) of solid waste from existing sources. These estimates are based on the assumption that an ESP will be installed on one pressed and blown glass furnace, and that fabric filters will be installed on two pressed and blown glass furnaces. For new sources, we estimate that this final rule will have no impacts on solid waste generation.

3. Energy Impacts

Energy impacts consist of the electricity and fuel needed to operate control devices and other equipment that are required under this final rule. We assume that affected facilities will comply with this final rule by installing and operating either ESP or fabric filters, which require electricity to operate. Specifically, we assumed that an ESP will be installed on one pressed and blown glass furnace, and that fabric filters will be installed on two pressed and blown glass furnaces. Under this scenario, we project that this final rule will increase overall energy demand (i.e., electricity demand) for existing sources by about 1,970 megawatt-hours per year, or 7.1 thousand gigajoules per year (6.7 billion British thermal units per year). We estimate that none of the nine new sources projected to go into operation during the first three years of

the standard will be affected by this final rule. Therefore, we are not expecting any energy impacts for new sources.

4. Cost Impacts

The estimated total capital costs of this final rule for existing sources are \$1.42 million. These capital costs include the costs to purchase and install ESP or fabric filters on the three affected furnaces that are not currently controlled. The estimated annualized cost of this final rule for existing sources is \$491,000 per year. The annualized costs account for the annualized capital costs of the control and monitoring equipment, operation and maintenance expenses, performance testing, and recordkeeping costs for the three existing facilities within the source category that will be required to install new emission controls. The other affected facilities will incur costs only for submitting the notifications and for annual control device inspections because those facilities already meet the testing, monitoring, and recordkeeping requirements that are required under this final rule.

We estimate that none of the nine new sources projected to go into operation during the first three years of the standard will be affected sources under this final rule. Therefore, we estimate no cost impacts for new sources.

5. Economic Impacts

Both the magnitude of control costs needed to comply with this final rule and the distribution of these costs among affected facilities can have an impact in determining how the market will change in response to the rule. Total annualized costs for this final rule are estimated to be approximately \$0.48 million. Only three facilities are estimated to require additional capital costs because of this final rule.

We obtained revenue data for two of the three companies that operate facilities that will be required to install emission controls under this final rule. Based on those data, cost-to-sales estimates for those two affected facilities are 0.66 percent and 1.0 percent, respectively. Revenue data were not available for the other facility that will be affected by this final rule, so the national average value of shipments per worker from the 2002 Census of Manufacturers was used along with the average number of workers per facility to estimate revenues. The resulting costs for this and the other two facilities are relatively small and are not expected to result in a significant market impact whether they are passed on to the purchaser or absorbed by the company.

B. Clay Ceramics Manufacturing

Unlike the glass manufacturing industry, which still has some uncontrolled sources of urban HAP, sources in the clay ceramics manufacturing source category have made significant emission reductions through process changes and installation of control equipment. Affected sources are well-controlled, and our GACT determination reflects such controls. We estimate that the only impact to affected sources is the labor burden associated with the reporting and recordkeeping requirements. The cost associated with recordkeeping and the one-time reporting requirements is estimated to be \$974 per facility.

C. Secondary Nonferrous Metals Processing

Similar to the clay ceramics manufacturing industry, all of the affected sources in the secondary nonferrous metal processing category have installed control equipment on their furnace melting operations. Affected sources are well-controlled, and our GACT determination reflects such controls. We estimate that the only impact associated with this final rule is the reporting and recordkeeping requirements. The cost associated with recordkeeping and the one-time reporting requirements is estimated to be \$390 per facility.

VII. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review

Under Executive Order 12866 (58 FR 51735, October 4, 1993), this action is a "significant regulatory action" because it may raise novel legal or policy issues. Accordingly, EPA submitted this action to the Office of Management and Budget (OMB) for review under Executive Order 12866, and any changes made in response to OMB recommendations have been documented in the docket for this action.

B. Paperwork Reduction Act

The information collection requirements in these NESHAP for Clay Ceramics Manufacturing Area Sources, Glass Manufacturing Area Sources, and Secondary Nonferrous Metals Processing Area Sources have been submitted for approval to OMB under the *Paperwork Reduction Act*, 44 U.S.C. 3501 *et seq.* The information collection requirements are not enforceable until OMB approves them.

The recordkeeping and reporting requirements in these final rules are based on the information collection

requirements in the part 63 General Provisions (40 CFR part 63, subpart A). These recordkeeping and reporting requirements are mandatory pursuant to section 114 of the CAA (42 U.S.C. 7414). All information submitted to EPA pursuant to the information collection requirements for which a claim of confidentiality is made is safeguarded according to EPA's implementing regulations at 40 CFR part 2, subpart B.

The NESHAP for Clay Ceramics Manufacturing area sources requires applicable one-time notifications required by the General Provisions. Plant owners or operators are required to include compliance certifications for the management practices in their Notifications of Compliance Status. The affected sources are expected to already have the required control and monitoring equipment in place and already conduct the required monitoring and recordkeeping activities.

The annual burden for this information collection averaged over the first three years of this ICR is estimated to total 196 labor hours per year at a cost of approximately \$16,600 for 17 existing clay ceramics manufacturing area sources (51 existing sources averaged over three years). No capital/startup costs or operation and maintenance costs are associated with the information collection requirements. No costs or burden hours are estimated for new clay ceramics manufacturing area sources because no new area sources are projected for the next three years.

The NESHAP for Glass Manufacturing also requires applicable one-time notifications required by the General Provisions, monitoring of control device parameters, and recordkeeping. The annual burden for this collection of information averaged over the first three years of this ICR is estimated to total 190 labor hours per year at a cost of \$16,130 for the 21 glass manufacturing area source facilities that will be subject to this final rule. This burden estimate includes time for acquisition, installation, and use of monitoring technology and systems, one-time notifications, and recordkeeping. Total capital/startup costs associated with the monitoring requirements (e.g., costs for hiring performance test contractors and purchase of monitoring and file storage equipment) over the three-year period of the ICR are estimated at \$15,990, with operation and maintenance costs of \$9,850/yr. No costs or burden estimates are estimated for new sources because no new sources are projected for the next three years.

The NESHAP for Secondary Nonferrous Metals Processing area sources requires one-time notifications

required by the General Provisions. Plant owners or operators are required to conduct performance tests and include compliance certifications for the percent PM reduction achieved by the required control device in their Notifications of Compliance Status. The affected sources are expected to already have the required control and monitoring equipment in place and already conduct the required monitoring and recordkeeping activities.

The annual burden for this information collection averaged over the first three years of this ICR is estimated to total 15 labor hours per year at a cost of approximately \$1,300 for three existing secondary nonferrous metals processing area sources (10 existing sources averaged over three years). No capital/startup costs or operation and maintenance costs are associated with the information collection requirements. No costs or burden hours are estimated for new secondary nonferrous metals processing area sources because no new area sources are projected for the next three years.

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

An agency may not conduct or sponsor, and a person is not required to, respond to a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations in 40 CFR part 63 are listed in 40 CFR part 9. When this ICR is approved by OMB, the Agency will publish a technical amendment to 40 CFR part 9 in the **Federal Register** to display the OMB control number for the approved information collection requirements contained in these final rules.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the

Administrative Procedure Act or any other statute unless the agency certifies that the rule would not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small not-for-profit enterprises, and small governmental jurisdictions.

For the purposes of assessing the impacts of the area source NESHAP on small entities, a small entity is defined as: (1) A small business whose parent company meets the Small Business Administration size standards for small businesses found at 13 CFR 121.201 (less than 500 to 750 employees for Clay Ceramics Manufacturing, less than 750 to 1,000 employees for Glass Manufacturing, and less than 750 employees for Secondary Nonferrous Metals Processing, depending on the size definition for the affected NAICS code); (2) a small governmental jurisdiction that is a government of a city, county, town, school district, or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise, which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of these final rules on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. Based on our estimates, EPA does not expect any new clay ceramic or secondary nonferrous metal processing sources to be constructed in the foreseeable future and so, therefore, did not estimate the impacts for new clay ceramics manufacturing or secondary nonferrous metal processing sources. There would be no significant impacts on new or existing clay ceramics manufacturing facilities or secondary nonferrous metals processing facilities because these final rules do not create any new requirements or burdens other than minimal notification requirements. The minimal notification requirements consist of reading this final rule and providing two initial notifications to EPA: one notifying EPA that the facility is subject to this final rule and one notifying EPA that the facility is in compliance with this final rule. These notifications may be submitted together. We estimate the cost of these one-time notification requirements to be \$974 for each clay ceramics manufacturing facility and \$390 for each secondary nonferrous metals processing facility. These costs were estimated based on the costs of technical, management, and clerical support salaries. We also estimate that 34 clay ceramics facilities and 6 secondary nonferrous metals

processing facilities are owned and operated by small businesses. These notification costs would be less than 0.25 percent for any of these small businesses.

Twenty-one glass manufacturing facilities are estimated to require additional costs because of this final rule. Only one of these facilities is a small business.

Although these final rules will not have a significant economic impact on a substantial number of small entities, EPA nonetheless has tried to reduce the impact of this final rule on small entities. These final rules are designed to harmonize with existing State and local requirements.

D. Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104-4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with "Federal mandates" that may result in expenditures by State, local, and tribal governments, in the aggregate, or to the private sector, of \$100 million or more in any one year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA generally requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective, or least burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows EPA to adopt an alternative other than the least costly, most cost-effective, or least burdensome alternative if the Administrator publishes with the final rule an explanation why that alternative was not adopted. Before EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

EPA has determined that these final rules do not contain a Federal mandate that may result in expenditures of \$100 million or more for State, local, and tribal governments, in the aggregate, or to the private sector in any one year. Thus, these final rules are not subject to the requirements of sections 202 and 205 of the UMRA. EPA has determined that these final rules contain no regulatory requirement that might significantly or uniquely affect small governments. These final rules contain no requirements that apply to such governments, impose no obligations upon them, and will not result in expenditures by them of \$100 million or more in any one year or any disproportionate impacts on them.

E. Executive Order 13132: Federalism

Executive Order 13132 (64 FR 43255, August 10, 1999) requires EPA to develop an accountable process to assure "meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications." "Policies that have federalism implications" are defined in the Executive Order to include regulations that have "substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government."

These final rules do not have federalism implications. They will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. These final rules impose requirements on owners and operators of specified area sources and not State and local governments. Thus, Executive Order 13132 does not apply to these final rules.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

Executive Order 13175 (65 FR 67249, November 6, 2000), requires EPA to develop an accountable process to assure "meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications." These final rules do not have tribal implications, as specified in Executive Order 13175. They will not have substantial direct effects on tribal governments, on the relationship between the Federal government and Indian tribes, or on the distribution of power and responsibilities between the

Federal government and Indian tribes, as specified in Executive Order 13175. These final rules impose requirements on owners and operators of specified area sources and not tribal governments. Thus, Executive Order 13175 does not apply to these final rules.

G. Executive Order 13045: Protection of Children From Environmental Health and Safety Risks

Executive Order 13045: "Protection of Children from Environmental Health Risks and Safety Risks" (62 FR 19885, April 23, 1997) applies to any rule that: (1) Is determined to be "economically significant" as defined under Executive Order 12866, and (2) concerns an environmental health or safety risk that EPA has reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, EPA must evaluate the environmental health or safety effects of the planned rule on children, and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by EPA.

EPA interprets Executive Order 13045 as applying only to those regulatory actions that are based on health or safety risks, such that the analysis required under section 5-501 of the Executive Order has the potential to influence the regulation. These final rules are not subject to Executive Order 13045 because they are based on technology performance and not on health or safety risks.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

The glass manufacturing final rule is not a "significant energy action" as defined in Executive Order 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use" (66 FR 28355, May 22, 2001) because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. Existing energy requirements for this industry will not be significantly impacted by the additional pollution controls or other equipment that may be required by this final rule. Further, we have concluded that this final rule is not likely to have any significant adverse energy effects.

The clay ceramics manufacturing and the secondary nonferrous metals processing final rules are not "significant energy actions" as defined in Executive Order 13211 (66 FR 28355, May 22, 2001) because they are not likely to have a significant adverse effect on the supply, distribution, or use of

energy. The energy requirements for these industries will remain at existing levels. No additional pollution controls or other equipment that would consume energy are required by these final rules. Further, we have concluded that these final rules are not likely to have any adverse energy effects.

I. National Technology Transfer Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act (NTTAA) of 1995 (Public Law No. 104–113, Section 12(d), 15 U.S.C. 272 note) directs EPA to use voluntary consensus standards (VCS) in its regulatory activities, unless to do so would be inconsistent with applicable law or otherwise impractical. The VCS are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by VCS bodies. The NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency does not use available and applicable VCS.

These rules involve technical standards. EPA cites the following standards: EPA Methods 1, 1A, 2, 2A, 2C, 2F, 2G, 3, 3A, 3B, 4, 5, 17, 22, and 29 (40 CFR part 60, appendix A).

Consistent with the NTTAA, EPA conducted searches to identify voluntary consensus standards in addition to these EPA methods. No applicable voluntary consensus standards were identified for EPA Methods 1A, 2A, 2F, 2G, 22, and 29. The search and review results are in the dockets for these final rules.

The search identified one voluntary consensus standard as acceptable alternatives to an EPA Method. The standard ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses,” is cited in this rule for its manual method for measuring the oxygen, carbon dioxide, and carbon monoxide content of the exhaust gas. This part of ASME PTC 19.10–1981 is an acceptable alternative to EPA Method 3B.

The search for emissions measurement procedures identified 12 other voluntary consensus standards. EPA determined that these 12 standards identified for measuring emissions of the HAP or surrogates subject to emission standards in these final rules were impractical alternatives to EPA test methods for the purposes of the rules. Therefore, EPA does not intend to adopt these standards for these purposes. The reasons for the determinations for the 12 methods are discussed in the dockets to these final rules.

Under § 63.7(f) and § 63.8(f) of Subpart A of the General Provisions, a

source may apply to EPA for permission to use alternative test methods or alternative monitoring requirements in place of any required testing methods, performance specifications, or procedures.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 (59 FR 7629, February 16, 1994) establishes Federal executive policy on environmental justice. Its main provision directs Federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

EPA has determined that these final rules will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because they increase the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income population. These final rules establish national standards for each area source category.

K. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801, *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of Congress and to the Comptroller General of the United States. EPA will submit a report containing these final rules and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of these final rules in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a “major rule” as defined by 5 U.S.C. 804(2). These final rules will be effective on December 26, 2007.

List of Subjects in 40 CFR Part 63

Environmental protection, Air pollution control, Hazardous substances, Incorporations by reference,

Reporting and recordkeeping requirements.

Dated: December 14, 2007.

Stephen L. Johnson,
Administrator.

*For the reasons stated in the preamble, title 40, chapter I, part 63 of the Code of Federal Regulations is amended as follows:

PART 63—[AMENDED]

*§. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

Subpart A—[Amended]

*§. Section 63.14 is amended by revising paragraph (i)(1) to read as follows:

§ 63.14 Incorporations by reference.

* * * * *

(i) * * *

(1) ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus],” IBR approved for §§ 63.309(k)(1)(iii), 63.865(b), 63.3166(a)(3), 63.3360(e)(1)(iii), 63.3545(a)(3), 63.3555(a)(3), 63.4166(a)(3), 63.4362(a)(3), 63.4766(a)(3), 63.4965(a)(3), 63.5160(d)(1)(iii), 63.9307(c)(2), 63.9323(a)(3), 63.11148(e)(3)(iii), 63.11155(e)(3), 63.11162(f)(3)(iii) and (f)(4), 63.11163(g)(1)(iii) and (g)(2), 63.11410(j)(1)(iii), Table 5 of subpart DDDDD of this part, 63.11452(b)(11), and 63.11466(c)(1)(iii).

* * * * *

*§. Part 63 is amended by adding subpart RRRRRR to read as follows:

Subpart RRRRRR—National Emission Standards for Hazardous Air Pollutants for Clay Ceramics Manufacturing Area Sources

Applicability and Compliance Dates

Sec.

63.11435 Am I subject to this subpart?

63.11436 What parts of my plant does this subpart cover?

63.11437 What are my compliance dates?

Standards, Compliance, and Monitoring Requirements

63.11438 What are the standards for new and existing sources?

63.11439 What are the initial compliance demonstration requirements for new and existing sources?

63.11440 What are the monitoring requirements for new and existing sources?

63.11441 What are the notification requirements?

63.11442 What are the recordkeeping requirements?

Other Requirements and Information

- 63.11443 What General Provisions apply to this subpart?
- 63.11444 What definitions apply to this subpart?
- 63.11445 Who implements and enforces this subpart?
- 63.11446 [Reserved]
- 63.11447 [Reserved]

Tables to Subpart RRRRRR of Part 63

Table 1 to Subpart RRRRRR of Part 63—
Applicability of General Provisions to
Subpart RRRRRR

Applicability and Compliance Dates**§ 63.11435 Am I subject to this subpart?**

(a) You are subject to this subpart if you own or operate a clay ceramics manufacturing facility (as defined in § 63.11444), with an atomized glaze spray booth or kiln that fires glazed ceramic ware, that processes more than 45 megagrams per year (Mg/yr) (50 tons per year (tpy)) of wet clay and is an area source of hazardous air pollutant (HAP) emissions.

(b) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 71.3(a) for a reason other than your status as an area source under this subpart. You must continue to comply with the provisions of this subpart applicable to area sources.

§ 63.11436 What parts of my plant does this subpart cover?

(a) This subpart applies to any existing or new affected source located at a clay ceramics manufacturing facility.

(b) The affected source includes all atomized glaze spray booths and kilns that fire glazed ceramic ware located at a clay ceramics manufacturing facility.

(c) An affected source is existing if you commenced construction or reconstruction of the affected source on or before September 20, 2007.

(d) An affected source is new if you commenced construction or reconstruction of the affected source after September 20, 2007.

§ 63.11437 What are my compliance dates?

(a) If you have an existing affected source, you must comply with the standards no later than December 26, 2007.

(b) If you have a new affected source, you must comply with this subpart according to paragraphs (b)(1) and (2) of this section.

(1) If you start up your affected source on or before December 26, 2007, you

must comply with this subpart no later than December 26, 2007.

(2) If you start up your affected source after December 26, 2007, you must comply with this subpart upon initial startup of your affected source.

Standards, Compliance, and Monitoring Requirements**§ 63.11438 What are the standards for new and existing sources?**

(a) For each kiln that fires glazed ceramic ware, you must maintain the peak temperature below 1540 °C (2800 °F) and comply with one of the management practices in paragraphs (a)(1) and (2) of this section:

(1) Use natural gas, or equivalent clean-burning fuel, as the kiln fuel; or

(2) Use an electric-powered kiln.

(b) You must maintain annual wet glaze usage records for your facility.

(c) For each atomized glaze spray booth located at a clay ceramics manufacturing facility that uses more than 227 Mg/yr (250 tpy) of wet glaze(s), you must comply with the equipment standard requirements in paragraph (c)(1) of this section or the management practice in paragraph (c)(2) of this section.

(1) Control the emissions from the atomized glaze spray booth with an air pollution control device (APCD), as defined in § 63.11444.

(i) Operate and maintain the APCD in accordance with the equipment manufacturer's specifications; and

(ii) Monitor the APCD according to the applicable requirements in § 63.11440.

(2) Alternatively, use wet glazes containing less than 0.1 (weight) percent clay ceramics metal HAP.

(d) For each atomized glaze spray booth located at a clay ceramics manufacturing facility that uses 227 Mg/yr (250 tpy) or less of wet glaze(s), you must comply with one of the management practices or equipment standards in paragraphs (d)(1) and (2) of this section.

(1) Employ waste minimization practices, as defined in § 63.11444; or

(2) Alternatively, comply with the equipment standard requirements described in paragraph (c)(1) of this section or the management practice described in paragraph (c)(2) of this section.

(e) Surface applications (e.g., wet glazes) containing less than 0.1 (weight) percent clay ceramics metal HAP do not have to be considered in determination of the 227 Mg/yr (250 tpy) threshold for wet glaze usage.

§ 63.11439 What are the initial compliance demonstration requirements for new and existing sources?

(a) You must demonstrate initial compliance with the applicable management practices and equipment standards in § 63.11438 by submitting a Notification of Compliance Status. For any wet spray glaze operation controlled with an APCD, you must conduct an initial inspection of the control equipment as described in § 63.11440(b)(1) within 60 days of the compliance date and include the results of the inspection in the Notification of Compliance Status.

(b) You must demonstrate initial compliance with the applicable management practices or equipment standards in § 63.11438 by submitting the Notification of Compliance Status within 120 days after the applicable compliance date specified in § 63.11437.

§ 63.11440 What are the monitoring requirements for new and existing sources?

(a) For each kiln firing glazed ceramic ware, you must conduct a daily check of the peak firing temperature. If the peak temperature exceeds 1540 °C (2800 °F), you must take corrective action according to your standard operating procedures.

(b) For each existing or new atomized glaze spray booth equipped with an APCD, you must demonstrate compliance by conducting the monitoring activities in paragraph (b)(1) and either paragraph (b)(2) or (3) of this section:

(1) *Initial control device inspection.* You must conduct an initial inspection of each particulate matter (PM) control device according to the requirements in paragraphs (b)(1)(i) or (ii) of this section. You must conduct each inspection no later than 60 days after your applicable compliance date for each installed control device which has been operated within 60 days of the compliance date. For an installed control device which has not been operated within 60 days of the compliance date, you must conduct an initial inspection prior to startup of the control device.

(i) For each wet control system, you must verify the presence of water flow to the control equipment. You must also visually inspect the system ductwork and control equipment for leaks and inspect the interior of the control equipment (if applicable) for structural integrity and the condition of the control system. An initial inspection of the internal components of a wet control system is not required if an inspection has been performed within the past 12 months.

(ii) For each baghouse, you must visually inspect the system ductwork and baghouse unit for leaks. You must also inspect the inside of each baghouse for structural integrity and fabric filter condition. You must record the results of the inspection and any maintenance action as required in paragraph (d) of this section. An initial inspection of the internal components of a baghouse is not required if an inspection has been performed within the past 12 months.

(2) *Periodic inspections/maintenance.* Except as provided in paragraph (b)(3) of this section, you must perform periodic inspections and maintenance of each PM control device following the initial inspection according to the requirements in paragraphs (b)(2)(i) or (ii) of this section.

(i) You must inspect and maintain each wet control system according to the requirements in paragraphs (b)(2)(i)(A) through (C) of this section.

(A) You must conduct a daily inspection to verify the presence of water flow to the wet control system.

(B) You must conduct weekly visual inspections of the system ductwork and control equipment for leaks.

(C) You must conduct inspections of the interior of the wet control system (if applicable) to determine the structural integrity and condition of the control equipment every 12 months.

(ii) You must inspect and maintain each baghouse according to the requirements in paragraphs (b)(2)(ii)(A) and (B) of this section.

(A) You must conduct weekly visual inspections of the system ductwork for leaks.

(B) You must conduct inspections of the interior of the baghouse for structural integrity and to determine the condition of the fabric filter every 12 months.

(3) As an alternative to the monitoring activities in paragraph (b)(2) of this section, you may demonstrate compliance by:

(i) Conducting a daily 30-minute visible emissions (VE) test (i.e., no visible emissions) using EPA Method 22 (40 CFR part 60, appendix A-7); or

(ii) Using an approved alternative monitoring technique under § 63.8(f).

(c) If the results of the visual inspection, VE test, or alternative monitoring technique conducted under paragraph (b) of this section indicate an exceedance, you must take corrective action according to the equipment manufacturer's specifications or instructions.

(d) You must maintain records of your monitoring activities described in paragraphs (a) through (c) of this section. You may use your existing

operating permit documentation to meet the monitoring requirements if it includes, but is not limited to, the monitoring records listed in paragraphs (d)(1) through (5) of this section related to any kiln peak temperature checks, visual inspections, VE tests, or alternative monitoring:

- (1) The date, place, and time;
- (2) Person conducting the activity;
- (3) Technique or method used;
- (4) Operating conditions during the activity; and
- (5) Results.

§ 63.11441 What are the notification requirements?

(a) You must submit an Initial Notification required by § 63.9(b)(2) no later than 120 days after the applicable compliance date specified in § 63.11437. The Initial Notification must include the information specified in § 63.9(b)(2)(i) through (iv) and may be combined with the Notification of Compliance Status required in paragraph (b) of this section.

(b) You must submit a Notification of Compliance Status required by § 63.9(h) no later than 120 days after the applicable compliance date specified in § 63.11437. In addition to the information required in § 63.9(h)(2), your notification(s) must include each compliance certification in paragraphs (b)(1) through (3) of this section that applies to you and may be combined with the Initial Notification required in paragraph (a) of this section.

(1) For each kiln firing glazed ceramic ware, you must certify that you are maintaining the peak temperature below 1540 °C (2800 °F) according to § 63.11438(a) and complying with one of the management practices in § 63.11438(c)(1) or (2).

(2) For atomized glaze spray booths, you must certify that your facility's annual wet glaze usage is above or below 227 Mg/yr (250 tpy).

(3) For atomized glaze spray booths located at a clay ceramics manufacturing facility that uses more than 227 Mg/yr (250 tpy) of wet glaze(s), you must certify that:

(i) You are operating and maintaining an APCD in accordance with § 63.11438(c)(1), and you have conducted an initial control device inspection for each wet control system and baghouse associated with an atomized glaze spray booth; or

(ii) Alternatively, you are using wet glazes containing less than 0.1 (weight) percent clay ceramics metal HAP according to § 63.11438(c)(2).

(4) For atomized glaze spray booths located at a clay ceramics manufacturing facility that uses 227 Mg/yr (250 tpy) or less of wet glaze(s), you must certify that:

(i) You are employing waste minimization practices according to § 63.11438(d)(1); or

(ii) You are complying with the requirements in § 63.11438(c)(1) or (2).

§ 63.11442 What are the recordkeeping requirements?

(a) You must keep the records specified in paragraphs (a)(1) and (2) of this section.

(1) A copy of each notification that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirements in § 63.10(b)(2)(xiv).

(2) Records of all required measurements needed to document compliance with management practices as required in § 63.10(b)(2)(vii), including records of monitoring and inspection data required by § 63.11440.

(b) Your records must be in a form suitable and readily available for expeditious review, according to § 63.10(b)(1).

(c) As specified in § 63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(d) You must keep each record onsite for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to § 63.10(b)(1). You may keep the records offsite for the remaining three years.

Other Requirements and Information

§ 63.11443 What General Provisions apply to this subpart?

Table 1 to this subpart shows which parts of the General Provisions in §§ 63.1 through 63.16 apply to you.

§ 63.11444 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, in § 63.2, and in this section as follows:

Air pollution control device (APCD) means any equipment that reduces the quantity of a pollutant that is emitted to the air. Examples of APCD currently used on glaze spray booths include, but are not limited to, wet scrubbers, fabric filters, water curtains, and water-wash systems.

Atomization means the conversion of a liquid into a spray or mist (i.e., collection of drops), often by passing the liquid through a nozzle.

Clay ceramics manufacturing facility means a plant site that manufactures pressed tile, sanitaryware, dinnerware, or pottery. For the purposes of this area

source rule, the following types of facilities are not part of the regulated category: artisan potters, art studios, school and university ceramic arts programs, and any facility that uses less than 45 Mg/yr (50 tpy) of wet clay.

Clay ceramics metal HAP means an oxide or other compound of chromium, lead, manganese, or nickel, which were listed for Clay Ceramics Manufacturing in the Revised Area Source Category List (67 FR 70428, November 22, 2002).

Glaze means a coating of colored, opaque, or transparent material applied to ceramic products before firing.

Glaze spray booth means a type of equipment used for spraying glaze on ceramic products.

High-volume, low-pressure (HVLP) spray equipment means a type of air atomized spray equipment that operates at low atomizing air pressure (0.1 to 10 pounds per square inch (psi) at the air nozzle) and uses 15 to 30 cubic feet per minute (cfm) of air to minimize the amount of overspray and bounce back.

Kiln means equipment used for the initial curing or firing of glaze on ceramic ware. A kiln may operate continuously or by batch process.

Nonatomizing glaze application technique means the application of glaze in the form of a liquid stream without atomization. Such techniques include, but are not limited to, dipping, centrifugal disc, waterfall, flow coaters, curtain coaters, silk-screening, and any direct application by roller, brush, pad, or other means facilitating direct transfer of glaze.

Plant site means all contiguous or adjoining property that is under common control, including properties that are separated only by a road or other public right-of-way. Common

control includes properties that are owned, leased, or operated by the same entity, parent entity, subsidiary, or any combination thereof.

Waste minimization practices mean those procedures employed to minimize material losses and prevent unnecessary waste generation, for example, minimizing glaze overspray emissions using HVLP spray equipment (defined in this section) or similar spray equipment; minimizing HAP emissions during cleanup of spray glazing equipment; operating and maintaining spray glazing equipment according to manufacturer's instructions; and minimizing spills through careful handling of HAP-containing glaze materials.

Water curtain means an APCD that draws the exhaust stream through a continuous curtain of moving water to remove suspended particulate. A water curtain may also be called a drip curtain or waterfall.

Water-wash system means an APCD that uses a series of baffles to redirect the upward exhaust stream through a water wash chamber with downward water flow to remove suspended particulate.

§ 63.11445 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by the U.S. EPA or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out if this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are listed in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to the applicability requirements in §§ 63.11435 and 63.11436, the compliance date requirements in § 63.11437, and the management practices and equipment standards in § 63.11438.

(2) Approval of a major change to a test method under § 63.7(e)(2)(ii) and (f). A "major change to test method" is defined in § 63.90.

(3) Approval of a major change to monitoring under § 63.8(f). A "major change to monitoring" is defined in § 63.90.

(4) Approval of a major change to recordkeeping/reporting under § 63.10(f). A "major change to recordkeeping/reporting" is defined in § 63.90.

§ 63.11446 [Reserved]

§ 63.11447 [Reserved]

Tables to Subpart RRRRRR of Part 63

As stated in § 63.11443, you must comply with the requirements of the NESHAP General Provisions (40 CFR part 63, subpart A) shown in the following table:

TABLE 1 TO SUBPART RRRRRR OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART RRRRRR

Citation	Subject
63.1(a)(1)–(a)(4), (a)(6), (a)(10)–(a)(12), (b)(1), (b)(3), (c)(1), (c)(2), ¹ (c)(5), (e)	Applicability.
63.2	Definitions.
63.3	Units and Abbreviations.
63.4	Prohibited Activities and Circumvention.
63.6(a), (b)(1)–(b)(5), (b)(7), (c)(1), (c)(2), (c)(5), (e)(1), (f), (g), (i), (j)	Compliance with Standards and Maintenance Requirements.
63.8(a)(1), (a)(2), (b), (c)(1)(i)–(c)(1)(ii), (c)(2), (c)(3), (f)	Monitoring Requirements.
63.9(a), (b)(1), (b)(2), (b)(5), (c), (d), (h)(1)–(h)(3), (h)(5), (h)(6), (i), (j)	Notification Requirements.
63.10(a), (b)(1), (b)(2)(vii), (b)(2)(xiv), (b)(3), (c), (c)(1), (f)	Recordkeeping and Reporting Requirements.
63.12	State Authority and Delegations.
63.13	Addresses.
63.14	Incorporations by Reference.
63.15	Availability of Information and Confidentiality.
63.16	Performance Track Provisions.

¹ Section 63.11435(b) of this subpart exempts area sources from the obligation to obtain title V operating permits.

¶4. Part 63 is amended by adding subpart SSSSSS to read as follows:

Subpart SSSSSS—National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources

Applicability and Compliance Dates

Sec.

63.11448 Am I subject to this subpart?

63.11449 What parts of my plant does this subpart cover?

63.11450 What are my compliance dates?

Standards, Compliance, and Monitoring Requirements

63.11451 What are the standards for new and existing sources?

63.11452 What are the performance test requirements for new and existing sources?

63.11453 What are the initial compliance demonstration requirements for new and existing sources?

63.11454 What are the monitoring requirements for new and existing sources?

63.11455 What are the continuous compliance requirements for new and existing sources?

Notifications and Records

63.11456 What are the notification requirements?

63.11457 What are the recordkeeping requirements?

Other Requirements and Information

63.11458 What General Provisions apply to this subpart?

63.11459 What definitions apply to this subpart?

63.11460 Who implements and enforces this subpart?

63.11461 [Reserved]

Tables to Subpart SSSSSS of Part 63

Table 1 to Subpart SSSSSS of Part 63—Emission Limits

Table 2 to Subpart SSSSSS of Part 63—Applicability of General Provisions to Subpart SSSSSS

Applicability and Compliance Dates

§ 63.11448 Am I subject to this subpart?

You are subject to this subpart if you own or operate a glass manufacturing facility that is an area source of hazardous air pollutant (HAP) emissions and meets all of the criteria specified in paragraphs (a) through (c) of this section.

(a) A glass manufacturing facility is a plant site that manufactures flat glass, glass containers, or pressed and blown glass by melting a mixture of raw materials, as defined in § 63.11459, to produce molten glass and form the molten glass into sheets, containers, or other shapes.

(b) An area source of HAP emissions is any stationary source or group of stationary sources within a contiguous area under common control that does

not have the potential to emit any single HAP at a rate of 9.07 megagrams per year (Mg/yr) (10 tons per year (tpy)) or more and any combination of HAP at a rate of 22.68 Mg/yr (25 tpy) or more.

(c) Your glass manufacturing facility uses one or more continuous furnaces to produce glass that contains compounds of one or more glass manufacturing metal HAP, as defined in § 63.11459, as raw materials in a glass manufacturing batch formulation.

§ 63.11449 What parts of my plant does this subpart cover?

(a) This subpart applies to each existing or new affected glass melting furnace that is located at a glass manufacturing facility and satisfies the requirements specified in paragraphs (a)(1) through (3) of this section.

(1) The furnace is a continuous furnace, as defined in § 63.11459.

(2) The furnace is charged with compounds of one or more glass manufacturing metal HAP as raw materials.

(3) The furnace is used to produce glass, which contains one or more of the glass manufacturing metal HAP as raw materials, at a rate of at least 45 Mg/yr (50 tpy).

(b) A furnace that is a research and development process unit, as defined in § 63.11459, is not an affected furnace under this subpart.

(c) An affected source is an existing source if you commenced construction or reconstruction of the affected source on or before September 20, 2007.

(d) An affected source is a new source if you commenced construction or reconstruction of the affected source after September 20, 2007.

(e) If you own or operate an area source subject to this subpart, you must obtain a permit under 40 CFR part 70 or 40 CFR part 71.

§ 63.11450 What are my compliance dates?

(a) If you have an existing affected source, you must comply with the applicable emission limits specified in § 63.11451 of this subpart no later than December 28, 2009. As specified in section 112(i)(3)(B) of the Clean Air Act and in § 63.6(i)(4)(A), you may request that the Administrator or delegated authority grant an extension allowing up to 1 additional year to comply with the applicable emission limits if such additional period is necessary for the installation of emission controls.

(b) If you have a new affected source, you must comply with this subpart according to paragraphs (b)(1) and (2) of this section.

(1) If you start up your affected source on or before December 26, 2007, you

must comply with the applicable emission limit specified in § 63.11451 no later than December 26, 2007.

(2) If you start up your affected source after December 26, 2007, you must comply with the applicable emission limit specified in § 63.11451 upon initial startup of your affected source.

(c) If you own or operate a furnace that produces glass containing one or more glass manufacturing metal HAP as raw materials at an annual rate of less than 45 Mg/yr (50 tpy), and you increase glass production for that furnace to an annual rate of at least 45 Mg/yr (50 tpy), you must comply with the applicable emission limit specified in § 63.11451 within 2 years of the date on which you increased the glass production rate for the furnace to at least 45 Mg/yr (50 tpy).

(d) If you own or operate a furnace that produces glass at an annual rate of at least 45 Mg/yr (50 tpy) and is not charged with glass manufacturing metal HAP, and you begin production of a glass product that includes one or more glass manufacturing metal HAP as raw materials, and you produce at least 45 Mg/yr (50 tpy) of this glass product, you must comply with the applicable emission limit specified in § 63.11451 within 2 years of the date on which you introduced production of the glass product that contains glass manufacturing metal HAP.

(e) You must meet the notification requirements in § 63.11456 according to the schedule in § 63.11456 and in 40 CFR part 63, subpart A. Some of the notifications must be submitted before you are required to comply with emission limits specified in this subpart.

Standards, Compliance, and Monitoring Requirements

§ 63.11451 What are the standards for new and existing sources?

If you are an owner or operator of an affected furnace, as defined in § 63.11449(a), you must meet the applicable emission limit specified in Table 1 to this subpart.

§ 63.11452 What are the performance test requirements for new and existing sources?

(a) If you own or operate an affected furnace that is subject to an emission limit specified in Table 1 to this subpart, you must conduct a performance test according to paragraphs (a)(1) through (3) and paragraph (b) of this section.

(1) For each affected furnace, you must conduct a performance test within 180 days after your compliance date and report the results in your Notification of Compliance Status, except as specified in paragraph (a)(2) of this section.

(2) You are not required to conduct a performance test on the affected furnace if you satisfy the conditions described in paragraphs (a)(2)(i) through (iii) of this section.

(i) You conducted a performance test on the affected furnace within the past 5 years of the compliance date using the same test methods and procedures specified in paragraph (b) of this section.

(ii) The performance test demonstrated that the affected furnace met the applicable emission limit specified in Table 1 to this subpart.

(iii) Either no process changes have been made since the test, or you can demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance with the applicable emission limit.

(3) If you operate multiple identical furnaces, as defined in § 63.11459, that are affected furnaces, you are required to test only one of the identical furnaces if you meet the conditions specified in paragraphs (a)(3)(i) through (iii) of this section.

(i) You must conduct the performance test while the furnace is producing glass that has the greatest potential to emit the glass manufacturing metal HAP from among the glass formulations that are used in any of the identical furnaces.

(ii) You certify in your Notification of Compliance Status that the identical furnaces meet the definition of identical furnaces specified in § 63.11459.

(iii) You provide in your Notification of Compliance Status documentation that demonstrates why the tested glass formulation has the greatest potential to emit the glass manufacturing metal HAP.

(b) You must conduct each performance test according to the requirements in § 63.7 and paragraphs (b)(1) through (12) and either paragraph (b)(13) or (b)(14) of this section.

(1) Install and validate all monitoring equipment required by this subpart before conducting the performance test.

(2) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in § 63.7(e)(1).

(3) Conduct the test while the source is operating at the maximum production rate.

(4) Conduct at least three separate test runs with a minimum duration of 1 hour for each test run, as specified in § 63.7(e)(3).

(5) Record the test date.

(6) Identify the emission source tested.

(7) Collect and record the emission test data listed in this section for each run of the performance test.

(8) Locate all sampling sites at the outlet of the furnace control device or at the furnace stack prior to any releases to the atmosphere.

(9) Select the locations of sampling ports and the number of traverse points using Method 1 or 1A of 40 CFR part 60, appendix A-1.

(10) Measure the gas velocity and volumetric flow rate using Method 2, 2A, 2C, 2F, or 2G of 40 CFR part 60, appendices A-1 and A-2, during each test run.

(11) Conduct gas molecular weight analysis using Methods 3, 3A, or 3B of 40 CFR part 60, appendix A-2, during each test run. You may use ANSI/ASME PTC 19.10-1981, Flue and Exhaust Gas Analyses (incorporated by reference—see § 63.14) as an alternative to EPA Method 3B.

(12) Measure gas moisture content using Method 4 of 40 CFR part 60, appendix A-3, during each test run.

(13) To meet the particulate matter (PM) emission limit specified in Table 1 to this subpart, you must conduct the procedures specified in paragraphs (b)(13)(i) through (v) of this section.

(i) Measure the PM mass emission rate at the outlet of the control device or at the stack using Method 5 or 17 of 40 CFR part 60, appendices A-3 or A-6, for each test run.

(ii) Calculate the PM mass emission rate in the exhaust stream for each test run.

(iii) Measure and record the glass production rate (kilograms (tons) per hour of product) for each test run.

(iv) Calculate the production-based PM mass emission rate (g/kg (lb/ton)) for each test run using Equation 1 of this section.

$$MP = \frac{ER}{P} \quad (\text{Equation 1})$$

Where:

MP = Production-based PM mass emission rate, grams of PM per kilogram (pounds of PM per ton) of glass produced.

ER = PM mass emission rate measured using Methods 5 or 17 during each performance test run, grams (pounds) per hour.

P = Average glass production rate for the performance test, kilograms (tons) of glass produced per hour.

(v) Calculate the 3-hour block average production-based PM mass emission rate as the average of the production-based PM mass emission rates for each test run.

(14) To meet the metal HAP emission limit specified in Table 1 to this

subpart, you must conduct the procedures specified in paragraphs (b)(14)(i) through (v) of this section.

(i) Measure the metal HAP mass emission rate at the outlet of the control device or at the stack using Method 29 of 40 CFR part 60, appendix A-8, for each test run.

(ii) Calculate the metal HAP mass emission rate in the exhaust stream for the glass manufacturing metal HAP that are added as raw materials to the glass manufacturing formulation for each test run.

(iii) Measure and record the glass production rate (kilograms (tons) per hour of product) for each test run.

(iv) Calculate the production-based metal HAP mass emission rate (g/kg (lb/ton)) for each test run using Equation 2 of this section.

$$MPM = \frac{ERM}{P} \quad (\text{Equation 2})$$

Where:

MPM = Production-based metal HAP mass emission rate, grams of metal HAP per kilogram (pounds of metal HAP per ton) of glass produced.

ERM = Sum of the metal HAP mass emission rates for the glass manufacturing metal HAP that are added as raw materials to the glass manufacturing formulation and are measured using Method 29 during each performance test run, grams (pounds) per hour.

P = Average glass production rate for the performance test, kilograms (tons) of glass produced per hour.

(v) Calculate the 3-hour block average production-based metal HAP mass emission rate as the average of the production-based metal HAP mass emission rates for each test run.

§ 63.11453 What are the initial compliance demonstration requirements for new and existing sources?

(a) If you own or operate an affected source, you must submit a Notification of Compliance Status in accordance with §§ 63.9(h) and 63.11456(b).

(b) For each existing affected furnace that is subject to the emission limits specified in Table 1 to this subpart, you must demonstrate initial compliance according to the requirements in paragraphs (b)(1) through (4) of this section.

(1) For each fabric filter that is used to meet the emission limit specified in Table 1 to this subpart, you must visually inspect the system ductwork and fabric filter unit for leaks. You must also inspect the inside of each fabric filter for structural integrity and fabric filter condition. You must record the results of the inspection and any maintenance action as required in § 63.11457(a)(6).

(2) For each electrostatic precipitator (ESP) that is used to meet the emission limit specified in Table 1 to this subpart, you must verify the proper functioning of the electronic controls for corona power and rapper operation, that the corona wires are energized, and that adequate air pressure is present on the rapper manifold. You must also visually inspect the system ductwork and ESP housing unit and hopper for leaks and inspect the interior of the ESP to determine the condition and integrity of corona wires, collection plates, hopper, and air diffuser plates. You must record the results of the inspection and any maintenance action as required in § 63.11457(a)(6).

(3) You must conduct each inspection specified in paragraphs (b)(1) and (2) of this section no later than 60 days after your applicable compliance date specified in § 63.11450, except as specified in paragraphs (b)(3)(i) and (ii) of this section.

(i) An initial inspection of the internal components of a fabric filter is not required if an inspection has been performed within the past 12 months.

(ii) An initial inspection of the internal components of an ESP is not required if an inspection has been performed within the past 24 months.

(4) You must satisfy the applicable requirements for performance tests specified in § 63.11452.

(c) For each new affected furnace that is subject to the emission limit specified in Table 1 to this subpart and is controlled with a fabric filter, you must install, operate, and maintain a bag leak detection system according to paragraphs (c)(1) through (3) of this section.

(1) Each bag leak detection system must meet the specifications and requirements in paragraphs (c)(1)(i) through (viii) of this section.

(i) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 1 milligram per dry standard cubic meter (0.00044 grains per actual cubic foot) or less.

(ii) The bag leak detection system sensor must provide output of relative PM loadings. The owner or operator shall continuously record the output from the bag leak detection system using electronic or other means (e.g., using a strip chart recorder or a data logger).

(iii) The bag leak detection system must be equipped with an alarm system that will sound when the system detects an increase in relative particulate loading over the alarm set point established according to paragraph (c)(1)(iv) of this section, and the alarm must be located such that it can be

heard by the appropriate plant personnel.

(iv) In the initial adjustment of the bag leak detection system, you must establish, at a minimum, the baseline output by adjusting the sensitivity (range) and the averaging period of the device, the alarm set points, and the alarm delay time.

(v) Following initial adjustment, you shall not adjust the averaging period, alarm set point, or alarm delay time without approval from the Administrator or delegated authority except as provided in paragraph (c)(1)(vi) of this section.

(vi) Once per quarter, you may adjust the sensitivity of the bag leak detection system to account for seasonal effects, including temperature and humidity, according to the procedures identified in the site-specific monitoring plan required by paragraph (c)(2) of this section.

(vii) You must install the bag leak detection sensor downstream of the fabric filter.

(viii) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(2) You must develop and submit to the Administrator or delegated authority for approval a site-specific monitoring plan for each bag leak detection system. You must operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. Each monitoring plan must describe the items in paragraphs (c)(2)(i) through (vi) of this section.

(i) Installation of the bag leak detection system;

(ii) Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established;

(iii) Operation of the bag leak detection system, including quality assurance procedures;

(iv) How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list;

(v) How the bag leak detection system output will be recorded and stored; and

(vi) Corrective action procedures as specified in paragraph (c)(3) of this section. In approving the site-specific monitoring plan, the Administrator or delegated authority may allow owners and operators more than 3 hours to alleviate a specific condition that causes an alarm if the owner or operator identifies in the monitoring plan this specific condition as one that could lead to an alarm, adequately explains why it is not feasible to alleviate this condition within 3 hours of the time the alarm

occurs, and demonstrates that the requested time will ensure alleviation of this condition as expeditiously as practicable.

(3) For each bag leak detection system, you must initiate procedures to determine the cause of every alarm within 1 hour of the alarm. Except as provided in paragraph (c)(2)(vi) of this section, you must alleviate the cause of the alarm within 3 hours of the alarm by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to the following:

(i) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in PM emissions;

(ii) Sealing off defective bags or filter media;

(iii) Replacing defective bags or filter media or otherwise repairing the control device;

(iv) Sealing off a defective fabric filter compartment;

(v) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; or

(vi) Shutting down the process producing the PM emissions.

(d) For each new affected furnace that is subject to the emission limit specified in Table 1 to this subpart and is controlled with an ESP, you must install, operate, and maintain according to the manufacturer's specifications, one or more continuous parameter monitoring systems (CPMS) for measuring and recording the secondary voltage and secondary electrical current to each field of the ESP according to paragraphs (d)(1) through (13) of this section.

(1) The CPMS must have an accuracy of 1 percent of the secondary voltage and secondary electrical current, or better.

(2) Your CPMS must be capable of measuring the secondary voltage and secondary electrical current over a range that extends from a value that is at least 20 percent less than the lowest value that you expect your CPMS to measure, to a value that is at least 20 percent greater than the highest value that you expect your CPMS to measure.

(3) The signal conditioner, wiring, power supply, and data acquisition and recording system of your CPMS must be compatible with the output signal of the sensors used in your CPMS.

(4) The data acquisition and recording system of your CPMS must be able to record values over the entire range specified in paragraph (d)(2) of this section.

(5) The data recording system associated with your CPMS must have

a resolution of one-half of the required overall accuracy of your CPMS, as specified in paragraph (d)(1) of this section, or better.

(6) Your CPMS must be equipped with an alarm system that will sound when the system detects a decrease in secondary voltage or secondary electrical current below the alarm set point established according to paragraph (d)(7) of this section, and the alarm must be located such that it can be heard by the appropriate plant personnel.

(7) In the initial adjustment of the CPMS, you must establish, at a minimum, the baseline output by adjusting the sensitivity (range) and the averaging period of the device, the alarm set points, and the alarm delay time.

(8) You must install each sensor of the CPMS in a location that provides representative measurement of the appropriate parameter over all operating conditions, taking into account the manufacturer's guidelines.

(9) You must perform an initial calibration of your CPMS based on the procedures specified in the manufacturer's owner's manual.

(10) Your CPMS must be designed to complete a minimum of one cycle of operation for each successive 15-minute period. To have a valid hour of data, you must have at least three of four equally-spaced data values (or at least 75 percent of the total number of values if you collect more than four data values per hour) for that hour (not including startup, shutdown, malfunction, or out of control periods).

(11) You must record valid data from at least 90 percent of the hours during which the affected source or process operates.

(12) You must record the results of each inspection, calibration, initial validation, and accuracy audit.

(13) At all times, you must maintain your CPMS including, but not limited to, maintaining necessary parts for routine repairs of the CPMS.

(e) For each new affected furnace that is subject to the emission limit specified in Table 1 to this subpart and is controlled by a device other than a fabric filter or an ESP, you must prepare and submit a monitoring plan to EPA or the delegated authority for approval. Each plan must contain the information in paragraphs (e)(1) through (5) of this section.

(1) A description of the device;

(2) Test results collected in accordance with § 63.11452 verifying the performance of the device for reducing PM or metal HAP to the levels required by this subpart;

(3) Operation and maintenance plan for the control device (including a preventative maintenance schedule consistent with the manufacturer's instructions for routine and long-term maintenance) and continuous monitoring system;

(4) A list of operating parameters that will be monitored to maintain continuous compliance with the applicable emission limits; and

(5) Operating parameter limits based on monitoring data collected during the performance test.

§ 63.11454 What are the monitoring requirements for new and existing sources?

(a) For each monitoring system required by this subpart, you must install, calibrate, operate, and maintain the monitoring system according to the manufacturer's specifications and the requirements specified in paragraphs (a)(1) through (7) of this section.

(1) You must install each sensor of your monitoring system in a location that provides representative measurement of the appropriate parameter over all operating conditions, taking into account the manufacturer's guidelines.

(2) You must perform an initial calibration of your monitoring system based on the manufacturer's recommendations.

(3) You must use a monitoring system that is designed to complete a minimum of one cycle of operation for each successive 15-minute period.

(4) For each existing affected furnace, you must record the value of the monitored parameter at least every 8 hours. The value can be recorded electronically or manually.

(5) You must record the results of each inspection, calibration, monitoring system maintenance, and corrective action taken to return the monitoring system to normal operation.

(6) At all times, you must maintain your monitoring system including, but not limited to, maintaining necessary parts for routine repairs of the system.

(7) You must perform the required monitoring whenever the affected furnace meets the conditions specified in paragraph (a)(7)(i) or (ii) of this section.

(i) The furnace is being charged with one or more of the glass manufacturing metal HAP as raw materials.

(ii) The furnace is in transition between producing glass that contains one or more of the glass metal HAP as raw materials and glass that does not contain any of the glass manufacturing metal HAP as raw materials. The transition period begins when the furnace is charged with raw materials

that do not contain any of the glass manufacturing metal HAP as raw materials and ends when the furnace begins producing a saleable glass product that does not contain any of the glass manufacturing metal HAP as raw materials.

(b) For each existing furnace that is subject to the emission limit specified in Table 1 to this subpart and is controlled with an ESP, you must meet the requirements specified in paragraphs (b)(1) or (2) of this section.

(1) You must monitor the secondary voltage and secondary electrical current to each field of the ESP according to the requirements of paragraph (a) of this section, or

(2) You must submit a request for alternative monitoring, as described in paragraph (g) of this section.

(c) For each existing furnace that is subject to the emission limit specified in Table 1 to this subpart and is controlled with a fabric filter, you must meet the requirements specified in paragraphs (c)(1) or (2) of this section.

(1) You must monitor the inlet temperature to the fabric filter according to the requirements of paragraph (a) of this section, or

(2) You must submit a request for alternative monitoring, as described in paragraph (g) of this section.

(d) For each new furnace that is subject to the emission limit specified in Table 1 to this subpart and is controlled with an ESP, you must monitor the voltage and electrical current to each field of the ESP on a continuous basis using one or more CPMS according to the requirements for CPMS specified in § 63.11453(d).

(e) For each new furnace that is subject to the emission limit specified in Table 1 to this subpart and is controlled with a fabric filter, you must install and operate a bag leak detection system according to the requirements specified in § 63.11453(c).

(f) For each new or existing furnace that is subject to the emission limit specified in Table 1 to this subpart and is equipped with a control device other than an ESP or fabric filter, you must meet the requirements in § 63.8(f) and submit a request for approval of alternative monitoring methods to the Administrator no later than the submittal date for the Notification of Compliance Status, as specified in § 63.11456(b). The request must contain the information specified in paragraphs (f)(1) through (5) of this section.

(1) Description of the alternative add-on air pollution control device (APCD).

(2) Type of monitoring device or method that will be used, including the sensor type, location, inspection

procedures, quality assurance and quality control (QA/QC) measures, and data recording device.

(3) Operating parameters that will be monitored.

(4) Frequency that the operating parameter values will be measured and recorded.

(5) Procedures for inspecting the condition and operation of the control device and monitoring system.

(g) If you wish to use a monitoring method other than those specified in paragraph (b)(1) or (c)(1) of this section, you must meet the requirements in § 63.1145(f) and submit a request for approval of alternative monitoring methods to the Administrator no later than the submittal date for the Notification of Compliance Status, as specified in § 63.1145(b). The request must contain the information specified in paragraphs (g)(1) through (5) of this section.

(1) Type of monitoring device or method that will be used, including the sensor type, location, inspection procedures, QA/QC measures, and data recording device.

(2) Operating parameters that will be monitored.

(3) Frequency that the operating parameter values will be measured and recorded.

(4) Procedures for inspecting the condition and operation of the monitoring system.

(5) Explanation for how the alternative monitoring method will provide assurance that the emission control device is operating properly.

§ 63.11455 What are the continuous compliance requirements for new and existing sources?

(a) You must be in compliance with the applicable emission limits in this subpart at all times, except during periods of startup, shutdown, and malfunction.

(b) You must always operate and maintain your affected source, including air pollution control and monitoring equipment, according to the provisions in § 63.6(e)(1)(i).

(c) For each affected furnace that is subject to the emission limit specified in Table 1 to this subpart, you must monitor the performance of the furnace emission control device under the conditions specified in § 63.1145(a)(7) and according to the requirements in §§ 63.6(e)(1) and 63.8(c) and paragraphs (c)(1) through (6) of this section.

(1) For each existing affected furnace that is controlled with an ESP, you must monitor the parameters specified in § 63.1145(b) in accordance with the requirements of § 63.1145(a) or as

specified in your approved alternative monitoring plan.

(2) For each new affected furnace that is controlled with an ESP, you must comply with the monitoring requirements specified in § 63.1145(d) in accordance with the requirements of § 63.1145(a) or as specified in your approved alternative monitoring plan.

(3) For each existing affected furnace that is controlled with a fabric filter, you must monitor the parameter specified in § 63.1145(c) in accordance with the requirements of § 63.1145(a) or as specified in your approved alternative monitoring plan.

(4) For each new affected furnace that is controlled with a fabric filter, you must comply with the monitoring requirements specified in § 63.1145(e) in accordance with the requirements of § 63.1145(a) or as specified in your approved alternative monitoring plan.

(5) For each affected furnace that is controlled with a device other than a fabric filter or ESP, you must comply with the requirements of your approved alternative monitoring plan, as required in § 63.1145(g).

(6) For each monitoring system that is required under this subpart, you must keep the records specified in § 63.11457.

(d) Following the initial inspections, you must perform periodic inspections and maintenance of each affected furnace control device according to the requirements in paragraphs (d)(1) through (4) of this section.

(1) For each fabric filter, you must conduct inspections at least every 12 months according to paragraphs (d)(1)(i) through (iii) of this section.

(i) You must inspect the ductwork and fabric filter unit for leakage.

(ii) You must inspect the interior of the fabric filter for structural integrity and to determine the condition of the fabric filter.

(iii) If an initial inspection is not required, as specified in § 63.11453(b)(3)(i), the first inspection must not be more than 12 months from the last inspection.

(2) For each ESP, you must conduct inspections according to the requirements in paragraphs (d)(2)(i) through (iii) of this section.

(i) You must conduct visual inspections of the system ductwork, housing unit, and hopper for leaks at least every 12 months.

(ii) You must conduct inspections of the interior of the ESP to determine the condition and integrity of corona wires, collection plates, plate rappers, hopper, and air diffuser plates every 24 months.

(iii) If an initial inspection is not required, as specified in § 63.11453(b)(3)(ii), the first inspection

must not be more than 24 months from the last inspection.

(3) You must record the results of each periodic inspection specified in this section in a logbook (written or electronic format), as specified in § 63.11457(c).

(4) If the results of a required inspection indicate a problem with the operation of the emission control system, you must take immediate corrective action to return the control device to normal operation according to the equipment manufacturer's specifications or instructions.

(e) For each affected furnace that is subject to the emission limit specified in Table 1 to this subpart and can meet the applicable emission limit without the use of a control device, you must demonstrate continuous compliance by satisfying the applicable recordkeeping requirements specified in § 63.11457.

Notifications and Records

§ 63.11456 What are the notification requirements?

(a) If you own or operate an affected furnace, as defined in § 63.11449(a), you must submit an Initial Notification in accordance with § 63.9(b) and paragraphs (a)(1) and (2) of this section by the dates specified.

(1) As specified in § 63.9(b)(2), if you start up your affected source before December 26, 2007, you must submit an Initial Notification not later than April 24, 2008 or within 120 days after your affected source becomes subject to the standard.

(2) The Initial Notification must include the information specified in § 63.9(b)(2)(i) through (iv).

(b) You must submit a Notification of Compliance Status in accordance with § 63.9(h) and the requirements in paragraphs (b)(1) and (2) of this section.

(1) If you own or operate an affected furnace and are required to conduct a performance test, you must submit a Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test, according to § 60.8 or § 63.10(d)(2).

(2) If you own or operate an affected furnace and satisfy the conditions specified in § 63.11452(a)(2) and are not required to conduct a performance test, you must submit a Notification of Compliance Status, including the results of the previous performance test, before the close of business on the compliance date specified in § 63.11450.

§ 63.11457 What are the recordkeeping requirements?

(a) You must keep the records specified in paragraphs (a)(1) through (8) of this section.

(1) A copy of any Initial Notification and Notification of Compliance Status that you submitted and all documentation supporting those notifications, according to the requirements in § 63.10(b)(2)(xiv).

(2) The records specified in § 63.10(b)(2) and (c)(1) through (13).

(3) The records required to show continuous compliance with each emission limit that applies to you, as specified in § 63.11455.

(4) For each affected source, records of production rate on a process throughput basis (either feed rate to the process unit or discharge rate from the process unit). The production data must include the amount (weight or weight percent) of each ingredient in the batch formulation, including all glass manufacturing metal HAP compounds.

(5) Records of maintenance activities and inspections performed on control devices as specified in §§ 63.11453(b) and 63.11455(d), according to paragraphs (a)(5)(i) through (v) of this section.

(i) The date, place, and time of inspections of control device ductwork, interior, and operation.

(ii) Person conducting the inspection.

(iii) Technique or method used to conduct the inspection.

(iv) Control device operating conditions during the time of the inspection.

(v) Results of the inspection and description of any corrective action taken.

(6) Records of all required monitoring data and supporting information including all calibration and maintenance records.

(7) For each bag leak detection system, the records specified in paragraphs (a)(7)(i) through (iii) of this section.

(i) Records of the bag leak detection system output;

(ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings; and

(iii) The date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and whether the alarm was alleviated within 3 hours of the alarm.

(8) Records of any approved alternative monitoring method(s) or test procedure(s).

(b) Your records must be in a form suitable and readily available for expeditious review, according to § 63.10(b)(1).

(c) You must record the results of each inspection and maintenance action in a logbook (written or electronic format). You must keep the logbook onsite and make the logbook available to the permitting authority upon request.

(d) As specified in § 63.10(b)(1), you must keep each record for a minimum of 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

You must keep each record onsite for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to § 63.10(b)(1). You may keep the records offsite for the remaining three years.

Other Requirements and Information**§ 63.11458 What General Provisions apply to this subpart?**

You must satisfy the requirements of the General Provisions in 40 CFR part 63, subpart A, as specified in Table 2 to this subpart.

§ 63.11459 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, in § 63.2, and in this section as follows:

Air pollution control device (APCD) means any equipment that reduces the quantity of a pollutant that is emitted to the air.

Continuous furnace means a glass manufacturing furnace that operates continuously except during periods of maintenance, malfunction, control device installation, reconstruction, or rebuilding.

Cullet means recycled glass that is mixed with raw materials and charged to a glass melting furnace to produce glass. Cullet is not considered to be a raw material for the purposes of this subpart.

Electrostatic precipitator (ESP) means an APCD that removes PM from an exhaust gas stream by applying an electrical charge to particles in the gas stream and collecting the charged particles on plates carrying the opposite electrical charge.

Fabric filter means an APCD used to capture PM by filtering a gas stream through filter media.

Furnace stack means a conduit or conveyance through which emissions from the furnace melter are released to the atmosphere.

Glass manufacturing metal HAP means an oxide or other compound of any of the following metals included in the list of urban HAP for the Integrated Urban Air Toxics Strategy and for which Glass Manufacturing was listed as an area source category: arsenic, cadmium, chromium, lead, manganese, and nickel.

Glass melting furnace means a unit comprising a refractory-lined vessel in which raw materials are charged and melted at high temperature to produce molten glass.

Identical furnaces means two or more furnaces that are identical in design, including manufacturer, dimensions, production capacity, charging method, operating temperature, fuel type, burner configuration, and exhaust system configuration and design.

Particulate matter (PM) means, for purposes of this subpart, emissions of PM that serve as a measure of filterable particulate emissions, as measured by Methods 5 or 17 (40 CFR part 60, appendices A-3 and A-6), and as a surrogate for glass manufacturing metal HAP compounds contained in the PM including, but not limited to, arsenic, cadmium, chromium, lead, manganese, and nickel.

Plant site means all contiguous or adjoining property that is under common control, including properties that are separated only by a road or other public right-of-way. Common control includes properties that are owned, leased, or operated by the same entity, parent entity, subsidiary, or any combination thereof.

Raw material means minerals, such as silica sand, limestone, and dolomite; inorganic chemical compounds, such as soda ash (sodium carbonate), salt cake (sodium sulfate), and potash (potassium carbonate); metal oxides and other metal-based compounds, such as lead oxide, chromium oxide, and sodium antimonate; metal ores, such as chromite and pyrolusite; and other substances that are intentionally added to a glass manufacturing batch and melted in a glass melting furnace to produce glass. Metals that are naturally-occurring trace constituents or contaminants of other substances are not considered to be raw materials. Cullet and material that is recovered from a furnace control device for recycling into the glass formulation are not considered to be raw materials for the purposes of this subpart.

Research and development process unit means a process unit whose purpose is to conduct research and development for new processes and products and is not engaged in the manufacture of products for commercial sale, except in a de minimis manner.

§ 63.11460 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out if this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to

a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraphs (b)(1) through (4) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(1) Approval of alternatives to the applicability requirements in §§ 63.11448 and 63.11449, the compliance date requirements in § 63.11450, and the emission limits specified in § 63.11451.

(2) Approval of a major change to test methods under § 63.7(e)(2)(ii) and (f) and as defined in § 63.90.

(3) Approval of major alternatives to monitoring under § 63.8(f) and as defined in § 63.90.

(4) Approval of major alternatives to recordkeeping under § 63.10(f) and as defined in § 63.90.

§ 63.11461 [Reserved]**Tables to Subpart SSSSSS of Part 63**

As required in § 63.11451, you must comply with each emission limit that applies to you according to the following table:

TABLE 1 TO SUBPART SSSSSS OF PART 63—EMISSION LIMITS

For each. . .	You must meet one of the following emission limits. . .
1. New or existing glass melting furnace that produces glass at an annual rate of at least 45 Mg/yr (50 tpy) AND is charged with compounds of arsenic, cadmium, chromium, manganese, lead, or nickel as raw materials.	a. The 3-hour block average production-based PM mass emission rate must not exceed 0.1 gram per kilogram (g/kg) (0.2 pound per ton (lb/ton)) of glass produced; OR b. The 3-hour block average production-based metal HAP mass emission rate must not exceed 0.01 g/kg (0.02 lb/ton) of glass produced.

As stated in § 63.11458, you must comply with the requirements of the NESHAP General Provisions (40 CFR

part 63, subpart A), as shown in the following table:

TABLE 2 TO SUBPART SSSSSS OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART SSSSSS

Citation	Subject
§ 63.1(a), (b), (c)(1), (c)(2), (c)(5), (e)	Applicability.
§ 63.2	Definitions.
§ 63.3	Units and Abbreviations.
§ 63.4	Prohibited Activities.
§ 63.5	Construction/Reconstruction.
§ 63.6(a), (b)(1)–(b)(5), (b)(7), (c)(1), (c)(2), (c)(5), (e)(1), (f), (g), (i), (j)	Compliance with Standards and Maintenance Requirements.
§ 63.7	Performance Testing Requirements.
§ 63.8(a)(1), (a)(2), (b), (c)(1)–(c)(4), (c)(7)(i)(B), (c)(7)(ii), (c)(8), (d), (e)(1), (e)(4), (f)	Monitoring Requirements.
§ 63.9(a), (b)(1)(i)–(b)(2)(v), (b)(5), (c), (d), (h)–(j)	Notification Requirements.
§ 63.10(a), (b)(1), (b)(2)(i)–(b)(2)(xii)	Recordkeeping and Reporting Requirements.
§ 63.10(b)(2)(xiv), (c), (f)	Documentation for Initial Notification and Notification of Compliance Status.
§ 63.12	State Authority and Delegations.
§ 63.13	Addresses.
§ 63.14	Incorporations by Reference.
§ 63.15	Availability of Information.
§ 63.16	Performance Track Provisions.

¶ 6. Part 63 is amended by adding subpart TTTTTT to read as follows:

Subpart TTTTTT—National Emission Standards for Hazardous Air Pollutants for Secondary Nonferrous Metals Processing Area Sources

Applicability and Compliance Dates

Sec.

63.11462 Am I subject to this subpart?

63.11463 What parts of my plant does this subpart cover?

63.11464 What are my compliance dates?

Standards, Compliance, and Monitoring Requirements

63.11465 What are the standards for new and existing sources?

63.11466 What are the performance test requirements for new and existing sources?

63.11467 What are the initial compliance demonstration requirements for new and existing sources?

63.11468 What are the monitoring requirements for new and existing sources?

63.11469 What are the notification requirements?

63.11470 What are the recordkeeping requirements?

Other Requirements and Information

63.11471 What General Provisions apply to this subpart?

63.11472 What definitions apply to this subpart?

63.11473 Who implements and enforces this subpart?

63.11474 [Reserved]

Tables to Subpart TTTTTT of Part 63

Table 1 to Subpart TTTTTT of Part 63—Applicability of General Provisions to Subpart TTTTTT

Applicability and Compliance Dates**§ 63.11462 Am I subject to this subpart?**

(a) You are subject to this subpart if you own or operate a secondary nonferrous metals processing facility (as defined in § 63.11472) that is an area source of hazardous air pollutant (HAP) emissions.

(b) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart applicable to area sources.

§ 63.11463 What parts of my plant does this subpart cover?

(a) This subpart applies to any existing or new affected source located at a secondary nonferrous metals processing facility.

(b) The affected source includes all crushing and screening operations at a secondary zinc processing facility and all furnace melting operations located at any secondary nonferrous metals processing facilities.

(c) An affected source is existing if you commenced construction or reconstruction of the affected source on or before September 20, 2007.

(d) An affected source is new if you commenced construction or reconstruction of the affected source after September 20, 2007.

§ 63.11464 What are my compliance dates?

(a) If you have an existing affected source, you must comply with the standards no later than December 26, 2007.

(b) If you have a new affected source, you must comply with this subpart according to paragraphs (b)(1) and (b)(2) of this section.

(1) If you start up your affected source on or before December 26, 2007, you must comply with this subpart no later than December 26, 2007.

(2) If you start up your affected source after December 26, 2007, you must comply with this subpart upon initial startup of your affected source.

Standards, Compliance, and Monitoring Requirements**§ 63.11465 What are the standards for new and existing sources?**

(a) You must route the emissions from each existing affected source through a fabric filter or baghouse that achieves a

particulate matter (PM) control efficiency of at least 99.0 percent or an outlet PM concentration limit of 0.034 grams per dry standard cubic meter (g/dscm) (0.015 grains per dry standard cubic foot (gr/dscf)).

(b) You must route the emissions from each new affected source through a fabric filter or baghouse that achieves a PM control efficiency of at least 99.5 percent or an outlet PM concentration limit of 0.023 g/dscm (0.010 gr/dscf).

§ 63.11466 What are the performance test requirements for new and existing sources?

(a) Except as specified in paragraph (b) of this section, if you own or operate an existing or new affected source, you must conduct a performance test for each affected source within 180 days of your compliance date and report the results in your notification of compliance status.

(b) If you own or operate an existing affected source, you are not required to conduct a performance test if a prior performance test was conducted within the past 5 years of the compliance date using the same methods specified in paragraph (c) of this section and you meet either of the following two conditions:

(1) No process changes have been made since the test; or

(2) You demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process changes.

(c) You must conduct each performance test according to the requirements in § 63.7 and paragraphs (c)(1) and (2) of this section.

(1) Determine the concentration of PM according to the following test methods in 40 CFR part 60, appendices:

(i) Method 1 or 1A (Appendix A-1) to select sampling port locations and the number of traverse points in each stack or duct. Sampling sites must be located at the outlet of the control device and prior to any releases to the atmosphere.

(ii) Method 2, 2A, 2C, 2F, or 2G (Appendices A-1 and A-2) to determine the volumetric flow rate of the stack gas.

(iii) Method 3, 3A, or 3B (Appendix A-2) to determine the dry molecular weight of the stack gas. You may use ANSI/ASME PTC 19.10-1981, "Flue and Exhaust Gas Analyses" (incorporated by reference-see § 63.14) as an alternative to EPA Method 3B.

(iv) Method 4 (Appendix A-3) to determine the moisture content of the stack gas.

(v) Method 5 or 17 (Appendix A-3) to determine the concentration of particulate matter (front half filterable catch only). Three valid test runs are needed to comprise a performance test.

(2) During the test, you must operate each emissions source within ± 10 percent of its normal process rate. You must monitor and record the process rate during the test.

§ 63.11467 What are the initial compliance demonstration requirements for new and existing sources?

(a) You must demonstrate initial compliance with the applicable standards in § 63.11465 by submitting a Notification of Compliance Status in accordance with § 63.11469(b).

(b) You must conduct the inspection specified in paragraph (c) of this section and include the results of the inspection in the Notification of Compliance Status.

(c) For each existing and new affected source, you must conduct an initial inspection of each baghouse. You must visually inspect the system ductwork and baghouse unit for leaks. Except as specified in paragraph (e) of this section, you must also inspect the inside of each baghouse for structural integrity and fabric filter condition. You must record the results of the inspection and any maintenance action as required in § 63.11470.

(d) For each installed baghouse that is in operation during the 60 days after the applicable compliance date, you must conduct the inspection specified in paragraph (c) of this section no later than 60 days after your applicable compliance date. For an installed baghouse that is not in operation during the 60 days after the applicable compliance date, you must conduct an initial inspection prior to startup of the baghouse.

(e) An initial inspection of the internal components of a baghouse is not required if an inspection has been performed within the past 12 months.

(f) If you own or operate an existing affected source and are not required to conduct a performance test under § 63.11466, you must submit the Notification of Compliance Status within 120 days after the applicable compliance date specified in § 63.11464.

(g) If you own or operate an existing affected source and are required to conduct a performance test under § 63.11466, you must submit the Notification of Compliance Status within 60 days after completing the performance test.

§ 63.11468 What are the monitoring requirements for new and existing sources?

(a) For an existing affected source, you must demonstrate compliance by conducting the monitoring activities in paragraph (a)(1) or (a)(2) of this section:

(1) You must perform periodic inspections and maintenance of each

baghouse according to the requirements in paragraphs (a)(1)(i) and (ii) of this section.

(i) You must conduct weekly visual inspections of the system ductwork for leaks.

(ii) You must conduct inspections of the interior of the baghouse for structural integrity and to determine the condition of the fabric filter every 12 months.

(2) As an alternative to the monitoring requirements in paragraph (a)(1) of this section, you may demonstrate compliance by conducting a daily 30-minute visible emissions (VE) test (i.e., no visible emissions) using EPA Method 22 (40 CFR part 60, appendix A-7).

(b) If the results of the visual inspection or VE test conducted under paragraph (a) of this section indicate a problem with the operation of the baghouse, including but not limited to air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in PM emissions, you must take immediate corrective action to return the baghouse to normal operation according to the equipment manufacturer's specifications or instructions and record the corrective action taken.

(c) For each new affected source, you must install, operate, and maintain a bag leak detection system according to paragraphs (c)(1) through (3) of this section.

(1) Each bag leak detection system must meet the specifications and requirements in paragraphs (c)(1)(i) through (viii) of this section.

(i) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 1 milligram per dry standard cubic meter (0.00044 grains per actual cubic foot) or less.

(ii) The bag leak detection system sensor must provide output of relative PM loadings. The owner or operator shall continuously record the output from the bag leak detection system using electronic or other means (e.g., using a strip chart recorder or a data logger).

(iii) The bag leak detection system must be equipped with an alarm system that will sound when the system detects an increase in relative particulate loading over the alarm set point established according to paragraph (c)(1)(iv) of this section, and the alarm must be located such that it can be heard by the appropriate plant personnel.

(iv) In the initial adjustment of the bag leak detection system, you must establish, at a minimum, the baseline output by adjusting the sensitivity (range) and the averaging period of the

device, the alarm set points, and the alarm delay time.

(v) Following initial adjustment, you shall not adjust the averaging period, alarm set point, or alarm delay time without approval from the Administrator or delegated authority except as provided in paragraph (c)(1)(vi) of this section.

(vi) Once per quarter, you may adjust the sensitivity of the bag leak detection system to account for seasonal effects, including temperature and humidity, according to the procedures identified in the site-specific monitoring plan required by paragraph (c)(2) of this section.

(vii) You must install the bag leak detection sensor downstream of the fabric filter.

(viii) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(2) You must develop and submit to the Administrator or delegated authority for approval a site-specific monitoring plan for each bag leak detection system. You must operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. Each monitoring plan must describe the items in paragraphs (c)(2)(i) through (vi) of this section.

(i) Installation of the bag leak detection system;

(ii) Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established;

(iii) Operation of the bag leak detection system, including quality assurance procedures;

(iv) How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list;

(v) How the bag leak detection system output will be recorded and stored; and

(vi) Corrective action procedures as specified in paragraph (c)(3) of this section. In approving the site-specific monitoring plan, the Administrator or delegated authority may allow owners and operators more than 3 hours to alleviate a specific condition that causes an alarm if the owner or operator identifies in the monitoring plan this specific condition as one that could lead to an alarm, adequately explains why it is not feasible to alleviate this condition within 3 hours of the time the alarm occurs, and demonstrates that the requested time will ensure alleviation of this condition as expeditiously as practicable.

(3) For each bag leak detection system, you must initiate procedures to determine the cause of every alarm

within 1 hour of the alarm. Except as provided in paragraph (c)(2)(vi) of this section, you must alleviate the cause of the alarm within 3 hours of the alarm by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to the following:

(i) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in PM emissions;

(ii) Sealing off defective bags or filter media;

(iii) Replacing defective bags or filter media or otherwise repairing the control device;

(iv) Sealing off a defective fabric filter compartment;

(v) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; or

(vi) Shutting down the process producing the PM emissions.

§ 63.11469 What are the notification requirements?

(a) You must submit the Initial Notification required by § 63.9(b)(2) no later than 120 days after the applicable compliance date specified in § 63.11464. The Initial Notification must include the information specified in § 63.9(b)(2)(i) through (iv) and may be combined with the Notification of Compliance Status required in § 63.11467 and paragraph (b) of this section if you choose to submit both notifications within 120 days.

(b) You must submit a Notification of Compliance Status in accordance with § 63.9(h) and the requirements in paragraphs (c) and (d) of this section. In addition to the information required in § 63.9(h)(2), § 63.11466, and § 63.11467, your notification must include the following certification(s) of compliance, as applicable, and signature of a responsible official:

(1) This certification of compliance by the owner or operator of an existing affected source who is relying on a previous performance test: "This facility complies with the control efficiency requirement [or the outlet concentration limit] in § 63.11465 based on a previous performance test in accordance with § 63.11466."

(2) This certification of compliance by the owner or operator of any new or existing affected source: "This facility has conducted an initial inspection of each control device according to the requirements in § 63.11467, will conduct periodic inspections and maintenance of control devices in accordance with § 63.11468, and will maintain records of each inspection and maintenance action required by § 63.11470."

(3) This certification of compliance by the owner or operator of a new affected source: "This facility has an approved bag leak detection system monitoring plan in accordance with § 63.11468(c)(2)."

(c) If you own or operate an affected source and are required to conduct a performance test under § 63.11466, you must submit a Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test.

(d) If you own or operate an affected source and are not required to conduct a performance test under § 63.11466, you must submit a Notification of Compliance Status, including the results of the previous performance test, no later than 120 days after the applicable compliance date specified in § 63.11464.

§ 63.11470 What are the recordkeeping requirements?

(a) You must keep the records specified in paragraphs (a)(1) and (2) of this section.

(1) As required in § 63.10(b)(2)(xiv), you must keep a copy of each notification that you submitted to comply with this subpart and all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted.

(2) You must keep the records of all inspection and monitoring data required by §§ 63.11467 and 63.11468, and the information identified in paragraphs (a)(2)(i) through (a)(2)(v) for each required inspection or monitoring.

(i) The date, place, and time;
(ii) Person conducting the activity;
(iii) Technique or method used;
(iv) Operating conditions during the activity; and
(v) Results.

(b) Your records must be in a form suitable and readily available for expeditious review, according to § 63.10(b)(1).

(c) As specified in § 63.10(b)(1), you must keep each record for 5 years

following the date of each recorded action.

(d) You must keep each record onsite for at least 2 years after the date of each recorded action according to § 63.10(b)(1). You may keep the records offsite for the remaining three years.

Other Requirements and Information

§ 63.11471 What General Provisions apply to this subpart?

Table 1 to this subpart shows which parts of the General Provisions in §§ 63.1 through 63.16 apply to you.

§ 63.11472 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, in § 63.2, and in this section as follows:

Bag leak detection system means a system that is capable of continuously monitoring relative particulate matter (dust loadings) in the exhaust of a baghouse to detect bag leaks and other upset conditions. A bag leak detection system includes, but is not limited to, an instrument that operates on triboelectric, light scattering, light transmittance, or other effect to continuously monitor relative particulate matter loadings.

Furnace melting operation means the collection of processes used to charge post-consumer nonferrous scrap material to a furnace, melt the material, and transfer the molten material to a forming medium.

Secondary nonferrous metals processing facility means a brass and bronze ingot making, secondary magnesium processing, or secondary zinc processing plant that uses furnace melting operations to melt post-consumer nonferrous metal scrap to make products including bars, ingots, blocks, or metal powders.

§ 63.11473 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by the U.S. EPA or a delegated authority such as your State,

local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out if this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are listed in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to the applicability requirements in § 63.11462 and 63.11463, the compliance date requirements in § 63.11464, and the applicable standards in § 63.11465.

(2) Approval of a major change to a test method under § 63.7(e)(2)(ii) and (f). A "major change to test method" is defined in § 63.90.

(3) Approval of a major change to monitoring under § 63.8(f). A "major change to monitoring" is defined in § 63.90.

(4) Approval of a major change to recordkeeping/reporting under § 63.10(f). A "major change to recordkeeping/reporting" is defined in § 63.90.

§ 63.11474 [Reserved]

Tables to Subpart TTTTTT of Part 63

As stated in § 63.11471, you must comply with the requirements of the NESHAP General Provisions (40 CFR part 63, subpart A) shown in the following table:

TABLE 1 TO SUBPART TTTTTT OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART TTTTTT

Citation	Subject
63.1(a)(1)–(a)(4), (a)(6), (a)(10)–(a)(12), (b)(1), (b)(3), (c)(1), ¹ (c)(2), (c)(5), (e)	Applicability.
63.2	Definitions.
63.3	Units and Abbreviations.
63.4	Prohibited Activities and Circumvention.
63.6(a), (b)(1)–(b)(5), (b)(7), (c)(1), (c)(2), (c)(5), (e)(1), (f), (g), (i), (j)	Compliance With Standards and Maintenance Requirements.
63.7	Performance Testing Requirements
63.8(a)(1), (a)(2), (b), (c)(1)(i)–(c)(1)(iii), (c)(2), (c)(3), (f)	Monitoring Requirements.
63.9(a), (b)(1), (b)(2), (b)(5), (c), (d), (h)(1)–(h)(3), (h)(5), (h)(6), (i), (j)	Notification Requirements.
63.10(a), (b)(1), (b)(2)(vii), (b)(2)(xiv), (b)(3), (c), (f)	Recordkeeping and Reporting Requirements.
63.12	State Authority and Delegations.
63.13	Addresses.
63.14	Incorporations by Reference.

TABLE 1 TO SUBPART TTTTTT OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART TTTTTT—Continued

Citation	Subject
63.15	Availability of Information and Confidentiality.
63.16	Performance Track Provisions.

¹ Section 63.11462(b) of this subpart exempts area sources from the obligation to obtain title V operating permits.

[FR Doc. E7-24720 Filed 12-21-07; 8:45 am]

BILLING CODE 6560-50-P

To: Eric Lovell[eric@uroboros.com]
From: McClintock, Katie
Sent: Sun 2/21/2016 4:19:22 AM
Subject: RE: Uroboros response to request for information

Hi Eric –

Thank you for your email. We need to get information related to the quantity of each metal used at the facility each day over a period of time. A year would be best, but I am starting with a shorter period of time to lessen the burden. The formulas do not provide information on how much of the different products you make. I need to know how many of each formula you made and the date. If you have access to the batch tickets, then those are the records I need that will help me most accurately and quickly determine the amount of metals used.

Just to make sure I understand why you are asking the question, do you have access to those batch tickets? Are they kept somewhere (or saved in a computer)? If so, this should be easy to produce, even if it is 400 pages. If they are not kept, then we should talk about what records you do have (batch recipes and perhaps another charge/operation log which would show how much of each recipe was made on a particular day). However, if those batch tickets (with actual quantities used per day) exist, then those are the records we are requesting.

Does this help?

Katie

From: Eric Lovell [mailto:eric@uroboros.com]
Sent: Saturday, February 20, 2016 10:48 AM
To: McClintock, Katie <McClintock.Katie@epa.gov>
Subject: RE: Uroboros response to request for information

Would you mind if we re-visit the topic of the batch tickets and recipes? Here's why:

There were in excess of 400 unique batch tickets from the 4+ month period you are examining. Each shows the exact weight of each raw material used, in addition to the melted weight of that

mix. The formulas show the same information but in standardized 1000 Lb. quantities. I'm not sure what you'll gain for our effort of collecting and your effort reviewing another 400+ pages with essentially the same information.

Please advise.

Eric L.

From: McClintock, Katie [<mailto:McClintock.Katie@epa.gov>]
Sent: Friday, February 19, 2016 7:19 PM
To: Eric Lovell
Subject: RE: Uroboros response to request for information

Thank you Eric –

You have been diligent and responsive and I appreciate your frequent check ins about the progress. I will start reviewing this data this weekend and let you know what questions I have.

Katie

From: Eric Lovell [<mailto:eric@uroboros.com>]
Sent: Friday, February 19, 2016 2:55 PM
To: McClintock, Katie <McClintock.Katie@epa.gov>
Subject: Uroboros response to request for information

Dear Ms. McClintock,

Attached are eight digital files containing much of what you have requested. The first is a written response to each of the questions, and the others contain supporting documents.

I believe this fulfills your request completely, except for the batch tickets and formulas/recipes. We are still working on collecting those documents, and expect to mail those to you in paper form early next week. I apologize if it appears we are being too slow at providing these documents. I can explain what is taking the time if you wish, but we are putting several hours per day into it, and are getting close to having a complete and accurate set for you.

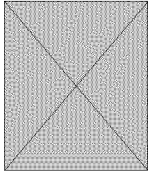
If I have missed anything, if you need additional information, or if you need any explanations of the materials, please let me know.

Sincerely,

Eric L.

Eric Lovell

President



2139 N. Kerby Ave
Portland, OR 97227
503-284-4900 x 201 T
503-284-7584 F

To: Elleman, Robert[Elleman.Robert@epa.gov]
From: McClintock, Katie
Sent: Sat 2/20/2016 4:43:22 AM
Subject: RE:

They do not melt glass on Saturday. So peaks on Saturday are concerning. Also interested how quickly the air is moving. Was it moving slower on 10/6 than it was on 10/7? Would that help explain the higher chromium peak that day?

From: Elleman, Robert
Sent: Friday, February 19, 2016 6:51 PM
To: McClintock, Katie <McClintock.Katie@epa.gov>
Subject: RE:

I got the Portland Airport data for that time period. There is a surprising lack of meteorological stations in Portland. The airport is not a good indicator of winds at Bullseye but it does tell us the weather conditions at the time and then we could use relationships to extrapolate to Bullseye. Just from the Portland data there isn't much consistent about the two spiky days (5th and 24th, if my memory is correct) about the weather. Both were warm days with downslope winds in the morning and some sea breeze flow in the afternoon. I think the monitor was NW of Bullseye?... I'll need some education.

ODEQ has wind data from SE Lafayette and N Kirby. Chris Hall is getting me all the data ODEQ has put into the EPA database. But their deadline isn't until March 31 for that data, so it might not be there yet. I sent a request to Anthony and Phil for the data from those two sites as well as whatever else they had going last October. Considering the lack of good data from traditional sources, the ODEQ met data will be key.

I can also search the citizen weather network. That is very hit or miss in terms of quality because it's Joe Schmoes putting up a weather station in their back yards, but sometimes you get lucky with someone who is savvy, diligent, and happens to live away from wind obstructions... like trees.

More on Monday. You can tell me which days are perplexing you and we can get into the data.

From: McClintock, Katie
Sent: Friday, February 19, 2016 9:35 AM
To: Elleman, Robert <Elleman.Robert@epa.gov>
Subject:

Katie McClintock

Air Enforcement Officer

EPA Region 10

1200 Sixth Avenue, Suite 900, OCE-101

Seattle, WA 98101

Phone: 206-553-2143

Fax: 206-553-4743

Mcclintock.katie@epa.gov

To: Steve Van Slyke[SteveV@pscleanair.org]
From: McClintock, Katie
Sent: Sat 2/20/2016 4:26:45 AM
Subject: RE: ardagh

Steve –

One follow up question for you. Is your screening tool available outside of WA. Could Oregon use the tool to try to guestimate impact at Bullseye like we plan to do at Spectrum based on usages?

From: Steve Van Slyke [mailto:SteveV@pscleanair.org]
Sent: Thursday, February 18, 2016 6:18 PM
To: McClintock, Katie <McClintock.Katie@epa.gov>
Subject: RE: ardagh

Ardagh is subject to 63 Subpart SSSSSS. I'm attaching some of our Offsite Report review records regarding notifications and test reports for 6S performance testing. I'm also attaching copies of the last NESHAP performance test. My apologies – an electronic copy of the first test is not in the system. However, the Offsite Report review for that test discusses the results.

I'll have to get back to you on the local monitoring data – I need to check with others. I'm attaching a link to the one document I found. I think the only metals data I found in it related to the Beacon Hill monitoring site.

http://www.pscleanair.org/library/Documents/2010_Tacoma-Seattle_Air_Toxics_Report.pdf

From: McClintock, Katie [mailto:McClintock.Katie@epa.gov]
Sent: Thursday, February 18, 2016 2:51 PM
To: Steve Van Slyke
Subject: ardagh

Thanks for bringing up Ardagh. Did you guys determine applicability of Part 63 SSSSSS?

Also any local monitoring data around there would be helpful.

Thanks Steve.

Katie McClintock

Air Enforcement Officer

EPA Region 10

1200 Sixth Avenue, Suite 900, OCE-101

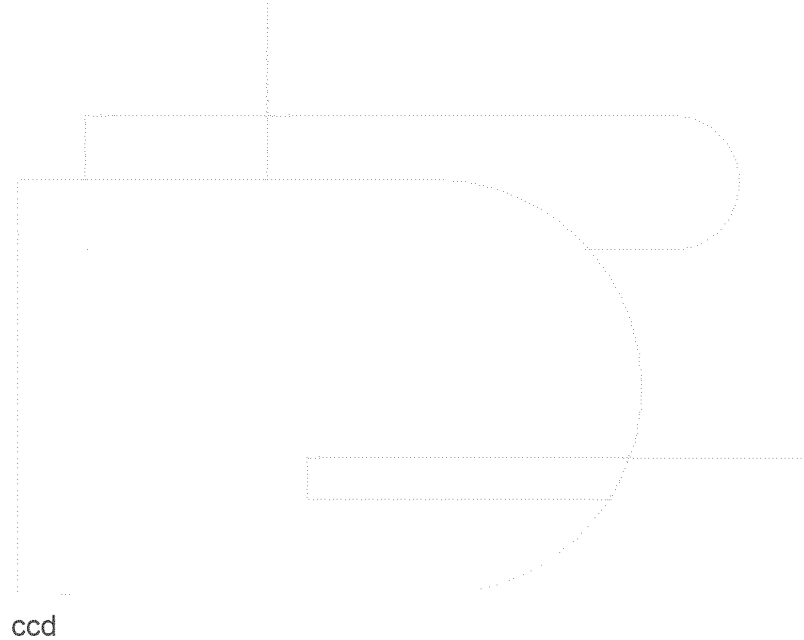
Seattle, WA 98101

Phone: 206-553-2143

Fax: 206-553-4743

Mcclintock.katie@epa.gov

To: Narvaez, Madonna[Narvaez.Madonna@epa.gov]
Cc: McCullough, Hugh[McCullough.Hugh@epa.gov]
From: McClintock, Katie
Sent: Tue 2/16/2016 8:57:35 PM
Subject: RE: do you know a hexavalent chromium expert in OAQPS?



From: Narvaez, Madonna
Sent: Tuesday, February 16, 2016 12:46 PM
To: Johnson, Steffan <johnson.steffan@epa.gov>; Pope, Anne <Pope.Anne@epa.gov>
Cc: Fairchild, Susan <Fairchild.Susan@epa.gov>; Dewees, Jason <Dewees.Jason@epa.gov>; Merrill, Raymond <Merrill.Raymond@epa.gov>; McClintock, Katie <McClintock.Katie@epa.gov>
Subject: RE: do you know a hexavalent chromium expert in OAQPS?

What is R7 Hugh's last name?

From: Johnson, Steffan
Sent: Tuesday, February 16, 2016 11:36 AM
To: Narvaez, Madonna <Narvaez.Madonna@epa.gov>; Pope, Anne <Pope.Anne@epa.gov>
Cc: Fairchild, Susan <Fairchild.Susan@epa.gov>; Dewees, Jason <Dewees.Jason@epa.gov>; Merrill, Raymond <Merrill.Raymond@epa.gov>
Subject: RE: do you know a hexavalent chromium expert in OAQPS?

Madonna,

In my experience hexavalent forms of chromium are not stable when they are emitted from a source. In fact, EPA has put a good bit of effort into developing a test method designed specifically to capture hex-chrome compounds and keep them in hex form until analysis, as other chromium emissions test methods tend to let the chromium convert to trivalent forms. It is also my understanding (though certainly not the final word on the topic at all) that hex chrome emissions are likely to change state to trivalent chrome post-emission. I believe Jason DeWees and Ray Merrill of my group may also have information to add here, and so I am copying them on this e-mail.

The only reliable test approach that I know to quantify in-stack emissions of hex-chrome is to use a test method known as SW-846-0061. This method uses an alkaline reagent to trap hex-chrome and retain it in hexavalent form until the alkaline solution can be analyzed at a lab. The test method is a bit tricky, but if you need to know in-stack emissions we're certainly available to help you walk through development of a test protocol.

As to ambient sampling for hex chrome, I'll let Hugh in R7 tell you what he knows, my experience stops at the stack.

Please let us know if we can be of further assistance.

Stef

From: Narvaez, Madonna
Sent: Tuesday, February 16, 2016 12:26 PM
To: Pope, Anne <Pope.Anne@epa.gov>
Cc: Fairchild, Susan <Fairchild.Susan@epa.gov>; Johnson, Steffan <johnson.steffan@epa.gov>
Subject: do you know a hexavalent chromium expert in OAQPS?
Importance: High

Hi, Anne, Susan and Stef. Hope all is well. I don't know if you have heard about the colored glass manufacturer in Portland that DEQ discovered a cadmium hotspot around the facility. In the course of investigations, we discovered that the facility uses Cr+6 as a dry colorant for the

glass. Ambient monitoring showed an average of 71.5 ng/m3 of total chromium. I don't know if Katie McClintock, the R10 enforcement contact has asked you for this information yet. If you can point us towards someone, we would really appreciate it. The company uses both Cr+3 and Cr+6, as well as cadmium and arsenic. In the next round of monitoring, the ODEQ will be monitoring for Cr+6 at the day care center, which is 220 meters from the facility. A cadmium hotspot was also detected close to the Harriet Tubman School. A much smaller colored glass mfg facility is close by.

- Katie McClintock did a cursory search for information on the conversion of trivalent chromium to hexavalent chromium and found little information, all of which was talking about smelting and coating. The research confirmed that the use of trivalent chromium alone can still produce hexavalent chromium, but found little data on the conversion rate under various circumstances. We need to develop or find an expert who can read more literature and help interpret the data we find in stack tests and ambient monitoring.

Thanks!

=====

Madonna Narvaez

Regional Air Toxics Coordinator

USEPA, Region 10

1200 Sixth Avenue, Ste 900

MC: AWT-150

phone: 206-553-2117

fax: 206-553-0110

narvaez.madonna@epa.gov

Follow @EPAnorthwest on Twitter! <https://twitter.com/EPAnorthwest>

To: Magorrian, Matthew[Magorrian.Matthew@epa.gov]
From: McClintock, Katie
Sent: Fri 2/12/2016 4:44:51 PM
Subject: briefing paper today - can you add to invite and print or should i email out and bring?
Dennis Briefing Glass.docx

Katie McClintock

Air Enforcement Officer

EPA Region 10

1200 Sixth Avenue, Suite 900, OCE-101

Seattle, WA 98101

Phone: 206-553-2143

Fax: 206-553-4743

Mcclintock.katie@epa.gov

To: Narvaez, Madonna[Narvaez.Madonna@epa.gov]
From: McClintock, Katie
Sent: Sat 2/6/2016 2:38:02 AM
Subject: FW: data from or
DEQ monitoring results.xlsx
acdpc for bullseye.pdf
Portland Powell and Twenty Second ave metals monitoring (2).xlsx

Did you not get this data?

Also, I talked to sarah this afternoon (late) and we had a great chat about the things you were assigned to talk to her about. I asked her to look into rerunning samples, but she thinks they might not have enough for speciation. I'll try to give you a call Monday from the road.

Katie

From: McClintock, Katie
Sent: Friday, February 05, 2016 2:21 PM
To: Leefers, Kristin <Leefers.Kristin@epa.gov>; Bray, Dave <Bray.Dave@epa.gov>; Narvaez, Madonna <Narvaez.Madonna@epa.gov>
Subject: data from or

Katie McClintock

Air Enforcement Officer

EPA Region 10

1200 Sixth Avenue, Suite 900, OCE-101

Seattle, WA 98101

Phone: 206-553-2143

Fax: 206-553-4743

Mcclintock.katie@epa.gov

Standard AIR CONTAMINANT DISCHARGE PERMIT REVIEW REPORT

Department of Environmental Quality
Northwest Region

Source Information:

SIC	3211
NAICS	327211

Source Categories (Table 1 Part, code)	B, 83
Public Notice Category	II

Compliance and Emissions Monitoring Requirements:

FCE	
Compliance schedule	
Unassigned emissions	
Emission credits	
Special Conditions	

Source test [date(s)]	
COMS	
CEMS	
Ambient monitoring	

Reporting Requirements

Annual report (due date)	15 Feb
Quarterly report (due dates)	

Monthly report (due dates)	
Excess emissions report	
Other (specify)	

Air Programs

Synthetic Minor (SM)	
SM -80	
NSPS (list subparts)	
NESHAP (list subparts)	61, N
Part 68 Risk Management	
CFC	

NSR	
PSD	
RACT	
TACT	x
Other (specify)	

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PERMITTING

PERMITTING ACTION

1. The permit is for an existing Air Contaminant Discharge Permit (ACDP) which was issued on 8/6/04 and was originally scheduled to expire on 6/1/09. It is a Standard permit, as the permittee has chosen to retain the facility's baseline emission rates.
2. The renewal application was submitted on 3/18/09. In April 2009, Bullseye Glass requested from EPA a determination of whether the facility is subject to 40 CFR 61, Subpart N, National Emission Standards for Inorganic Arsenic Emissions from Glass Manufacturing. EPA's determination, as contained in a letter dated 7/27/2010, was that the Subpart is applicable to the Bulleye facility.

OTHER PERMITS

3. No other permits have been issued or are required by the Department of Environmental Quality for this source.

ATTAINMENT STATUS

4. The source is located in a maintenance area for CO and Ozone. NO_x and VOC are precursors to Ozone. The facility is an insignificant source of CO, NO_x and VOC. The area is in attainment for all other criteria pollutants.

SOURCE DESCRIPTION

OVERVIEW

5. The permittee manufactures flat, stained glass. The process includes mixing sand, soda lime, and crushed glass with dry coloring agents, moistening the mixture with water, melting the mixture in a tank furnace, and forming glass sheets. The sheets are cut to specified sizes. The facility was built in 1974.
6. In 2006, the process was changed to allow the infusion of liquid oxygen into the furnaces during the melting process in lieu of ambient air. This change in process lowered NO_x emissions by roughly 40% for each retrofitted furnace. The change is made to the various furnaces during scheduled downtime (once every two years).

PROCESS AND CONTROL DEVICES

7. Existing air contaminant sources at the facility consist of the following:
- A Torit baghouse collects PM emissions from the silos that feed into the batch room, installed 2000. Collected material is reused in the process.
 - 14 tank furnaces (1-9 and 11-15), natural gas fired with propane back-up; cumulative operating capacity of 885 lb/hr and 2,700 ton/yr, 16,625 ft³/hr.
 - 2 pot furnaces (10 & 17), natural gas fired with propane back-up; cumulative operating capacity of 35 lb/hr and 100 ton/yr, 475 ft³/hr
 - New capacity is expected from the installation of new furnaces (18-20) or expanding the existing capacity of existing equipment. Anticipated cumulative capacity is 115 lb/hr and 350 ton/yr. This equipment will also be fired on natural gas with propane back-up and combust 3,800 ft³/hr.
 - Total fuel usage is estimated at 171 million ft³/yr.

COMPLIANCE

8. The facility was inspected on 9/14/05 and found to be out of compliance with the permit requirement to monitor the use of arsenic trioxide. The company responded to a Warning Letter by instituting procedures to monitor the use of arsenic trioxide monthly. No further action was deemed necessary. The facility was inspected on 8/16/10 and found to be in compliance with permit conditions.
9. During the prior permit period one complaint regarding the issuance of black smoke was recorded for this facility. A site visit on 9/13/07 revealed that the black smoke observed most likely came from a train. Train tracks run one block northwest of the plant. Emission exhaust points at the plant were observed during two batch processes; one for clear glass and one for red glass. No visible emissions were noted.

EMISSIONS

10. Proposed PSEL information:

Pollutant	Baseline Emission Rate (tons/yr)	Netting Basis		Plant Site Emission Limits (PSEL)		
		Previous (tons/yr)	Proposed (tons/yr)	Previous PSEL (tons/yr)	Proposed PSEL (tons/yr)	PSEL Increase (tons/yr)
PM ₁₀	0	1	0	14	14	0
SO ₂	0	1	0	39	39	0
NO _x	6	6	6	45	45	0

- a. The proposed PSELs for all pollutants except NO_x are equal to the Generic PSEL in accordance with OAR 340-216-0064(4)(b) and the netting basis is zero in accordance with OAR 340-222-0040(2). This change is a correction to the previous permit/review report. The facility's PTE for PM₁₀ and SO₂ are less than the Generic PSEL, thus the netting basis is zero.
- b. The PSEL for PM has been removed from the permit. Emissions from natural gas combustion and emissions from dry materials handling treated by a baghouse are PM₁₀.
- c. The PSEL for NO_x is equal to the netting basis plus the generic PSEL.
- d. For the 2009 production of 2,144 tons of glass melted, emissions of 1.8 tons PM, 1.7 tons PM₁₀, 2.7 tons SO₂, and 17.9 tons NO_x were reported.
- e. The PSEL is a federally enforceable limit on the potential to emit.

SIGNIFICANT EMISSION RATE ANALYSIS

11. For each pollutant, the proposed Plant Site Emission Limit is less than the Netting Basis plus the significant emission rate, thus no further air quality analysis is required.

MAJOR SOURCE APPLICABILITY

CRITERIA POLLUTANTS

12. A major source is a facility that has the potential to emit 100 tons/yr or more per year of any criteria pollutant. This facility is not a major source of criteria pollutant emissions.

HAZARDOUS AIR POLLUTANTS

13. A major source is a facility that has the potential to emit 10 tons/yr or more of any single HAP or 25 tons/yr or more of combined HAPs. This facility uses approximately 6,000 pounds of dry materials per year that contain HAP substances. Materials used at the facility may include arsenic trioxide, cadmium, selenium, chromium, and lead as coloring agents or to produce trade-mark characteristics in the glass. After the dry products are mixed, water is added to moisten a batch prior to firing. No data on the potential emissions through the furnace stack from these hydrated mixtures is available. Assuming that all of the material was released as PM, the facility would not have the potential to emit single or combined HAP at or above the major source threshold.

ADDITIONAL REQUIREMENTS

NSPS APPLICABILITY

14. 40 CFR Part 60, Subpart CC, New Source Performance Standards for Glass Manufacturing Plants, is not applicable to the source because the facility was constructed in 1974, prior to the June 15, 1979 subpart promulgation date.

NESHAPS/MACT APPLICABILITY

15. 40 CFR 63, Subpart SSSSSS, NESHAP for Glass Manufacturing Area Sources, is not applicable to this facility because the regulation applies only to continuous furnaces. Bullseye operates only periodic furnaces.
16. 40 CFR Part 61, Subpart N, National Emission Standards for Inorganic Arsenic Emissions from Glass Manufacturing, applies to a facility of any size existing prior to August 4, 1986. The limit for an uncontrolled source is 2.7 tons of arsenic emissions per year, based on mass balance. Bullseye reported the use of 825 pounds of arsenic in calendar year 2009.

RACT APPLICABILITY

17. The facility is located in the Portland AQMA, but it is not one of the listed source categories in OAR 340-232-0010, thus the RACT rules do not apply

TACT APPLICABILITY

18. The source is meeting the states TACT/Highest and Best Rules by collecting dry material fugitives in a baghouse and using water to moisten the mixture prior to firing.

PUBLIC NOTICE

19. Pursuant to OAR 340-216-0066(4)(a)(A), issuance of Standard Air Contaminant Discharge Permits require public notice in accordance with OAR 340-209-0030(3)(b), which requires that the Department provide notice of the proposed permit action and a minimum of 35 days for interested persons to submit written comments. **The public notice was mailed on April 15, 2011 and the comment period ended at 5 p.m., May 20, 2011. No comments were received during the comment period.**

ka:ggg
5/24/11

STANDARD
AIR CONTAMINANT DISCHARGE PERMIT

Department of Environmental Quality
Northwest Region
2020 SW 4th Avenue, #400
Portland, Oregon 97201
(503) 229-5554

This permit is being issued in accordance with the provisions of ORS 468A.040 and
based on the land use compatibility findings included in the permit record.

ISSUED TO:

Bullseye Glass Co.
3722 SE 21st Avenue
Portland, OR 97202

INFORMATION RELIED UPON:

Application No.: 023633
Date Received: 03/18/09
Additional information
received through 07/27/10

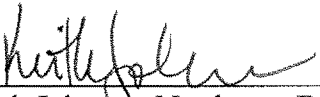
PLANT SITE LOCATION:

3722 SE 21st Avenue
Portland, OR 97202

LAND USE COMPATIBILITY FINDING:

Approving Authority: City of Portland
Approval Date: 03/11/97

ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY


Keith Johnson, Northwest Region Air Quality Manager

5/24/2011
Dated

Source(s) Permitted to Discharge Air Contaminants (OAR 340-216-0020):

Table 1 Code	Source Description	SIC / NAICS
Part B, 83	Problem for which an air quality concern is identified (stained flat glass manufacture)	3211 / 327211
C, 3	Source electing to maintain Baseline Emission Rate	n/a

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1.0 GENERAL EMISSION STANDARDS AND LIMITS

- | | |
|--|--|
| 1.1. Visible Emissions | The permittee must ensure that emissions from any air contaminant source does not equal or exceed 20% opacity for a period aggregating more than 30 seconds in any one hour. |
| 1.2. Particulate Matter Emissions | The permittee must ensure that particulate matter emissions from any air contaminant source other than fugitive emission sources does not exceed 0.1 grains per standard cubic foot |
| 1.3. Fugitive Emissions | <p>The permittee must take reasonable precautions to prevent fugitive dust emissions by:</p> <ul style="list-style-type: none"> a. Operating all air contaminant-generating processes so that fugitive type dust associated with the operation will be adequately controlled at all times. b. Storing collected materials from air pollution control equipment in a covered container or other method equally effective in preventing the material from becoming airborne during storage and transfer. |
| 1.4. Particulate Matter Fallout | The permittee must not cause or permit the emission of any particulate matter larger than 250 microns in size at sufficient duration or quantity, as to create an observable deposition upon the real property of another person. The Department will verify that the deposition exists and will notify the permittee that the deposition must be controlled. |
| 1.5. Nuisance and Odors | The permittee must not cause or allow air contaminants from any source to cause a nuisance. Nuisance conditions will be verified by Department personnel. |

2.0 SPECIFIC PERFORMANCE AND EMISSION STANDARDS

- | | |
|-------------------------------------|---|
| 2.1. Inorganic Arsenic Usage | <p>The permittee must ensure that arsenic emissions from each furnace do not exceed: existing (constructed prior to 8/4/1986) furnace do not exceed 2.7 tons per year</p> <ul style="list-style-type: none"> a. 2.7 tons per year for furnaces constructed prior to 8/14/1986 (existing furnaces) b. 0.44. tons per year for furnaces constructed or modified after 8/14/1986 (new furnaces) c. The permittee must operate and maintain each furnace in a manner consistent with good air pollution control practice to minimize emissions at all times. |
|-------------------------------------|---|

- d. Semi-annually, perform the calculations required in 40 CFR 61.164(c) to estimate uncontrolled plant-wide arsenic emissions.
- e. Record the occurrence and duration of all startups, shutdowns, and malfunctions of each furnace.

3.0 PLANT SITE EMISSION LIMITS

3.1. Plant Site Emission Limits (PSEL)

Plant site emissions must not exceed the following:

Pollutant	Limit	Units
PM ₁₀	14	tons per year
SO ₂	39	tons per year
NO _x	39	tons per year

- 3.2. Annual Period The annual plant site emissions limits apply to any 12-consecutive calendar month period.

4.0 COMPLIANCE DEMONSTRATION

4.1. PSEL Compliance Monitoring

Compliance with the PSEL is determined for each 12-consecutive calendar month period based on the following calculation for each pollutant:

$$E = \Sigma(EF \times P)/2000 \text{ lbs}$$

where,

$$\begin{aligned} E &= \text{pollutant emissions (ton/yr);} \\ EF &= \text{pollutant emission factor (Condition 4.2);} \\ P &= \text{process production (glass melted)} \end{aligned}$$

4.2. Emission Factors

The permittee must use the default emission factors provided in here for calculating pollutant emissions, unless alternative emission factors are approved by the Department. The permittee may request or the Department may require using alternative emission factors provided they are based on actual test data or other documentation (e.g., AP-42 compilation of emission factors) that has been reviewed and approved by the Department.

1.9 lb PM₁₀/ton glass melted
 3.0 lb SO₂/ton glass melted
 11.9 lb NO_x/ton glass melted for oxygen-fed furnaces
 19.8 lb NO_x/ton glass melted for unconverted furnaces

5.0 RECORDKEEPING REQUIREMENTS

- 5.1. Operation and Maintenance** The permittee must maintain the following records related to the operation and maintenance of the plant and associated air contaminant control devices:
- a. Tons of glass melted, monthly;
 - b. Types and quantities of glass containing arsenic, annually;
 - c. Emissions calculations required in Condition 4.1, monthly;
 - d. Semi-annual emissions calculation required in Condition 2.1, annually
- 5.2. Excess Emissions** The permittee must maintain records of excess emissions as defined in OAR 340-214-0300 through 340-214-0340 (recorded on occurrence). Typically, excess emissions are caused by process upsets, startups, shutdowns, or scheduled maintenance. In many cases, excess emissions are evident when visible emissions are greater than 20% opacity for 3 minutes or more in any 60-minute period. If there is an ongoing excess emission caused by an upset or breakdown, the permittee must cease operation of the equipment or facility no later than 48 hours after the beginning of the excess emissions, unless continued operation is approved by the Department in accordance with OAR 340-214-0330(4).
- 5.3. Complaint Log** The permittee must maintain a log of all written complaints and complaints received via telephone that specifically refer to air pollution concerns associated to the permitted facility. The log must include a record of the permittee's actions to investigate the validity of each complaint and a record of actions taken for complaint resolution.
- 5.4. Retention of Records** Unless otherwise specified, all records must be maintained on site for a period of two (2) years and made available to the Department upon request.

6.0 REPORTING REQUIREMENTS

- 6.1. Excess Emissions** The permittee must notify the Department of excess emissions events if the excess emission is of a nature that could endanger public health.
- a. Such notice must be provided as soon as possible, but never more than one hour after becoming aware of the

problem. Notice must be made to the regional office identified in Condition 8.3 by e-mail, telephone, facsimile, or in person.

- b. If the excess emissions occur during non-business hours, the permittee must notify the Department by calling the Oregon Emergency Response System (OERS). The current number is 1-800-452-0311.
- c. The permittee must also submit follow-up reports when required by the Department.

6.2. Annual Report

For each year this permit is in effect, the permittee must submit to the Department by **February 15** two (2) copies of the following information for the previous calendar year:

- a. Operating parameters:
 - i. Tons of glass melted;
 - ii. Types and quantities of glass melted that contain arsenic;
 - iii. Summary of annual pollutant emissions determined each month in accordance with Condition 4.1, with annual totals noted;
 - iv. Results of the calculations required in Condition 2.1.
- b. Records of all planned and unplanned excess emissions events.
- c. Summary of complaints relating to air quality received by permittee during the year.
- d. List permanent changes made in plant process, production levels, and pollution control equipment which affected air contaminant emissions.
- e. List major maintenance performed on pollution control equipment.

6.3. Notice of Change of Ownership or Company Name

The permittee must notify the Department in writing using a Departmental "Permit Application Form" within 60 days after the following:

- a. Legal change of the name of the company as registered with the Corporations Division of the State of Oregon; or
- b. Sale or exchange of the activity, or facility.

- 6.4. Construction or Modification Notices**
- The permittee must notify the Department in writing using a Departmental "Notice of Construction Form," or "Permit Application Form," and obtain approval in accordance with OAR 340-210-0205 through 340-210-0250 before:
- a. Constructing, installing, or establishing a new stationary source that will cause an increase in any regulated pollutant emissions;
 - b. Making any physical change or change in operation of an existing stationary source that will cause an increase, on an hourly basis at full production, in any regulated pollutant emissions; or
 - c. Constructing or modifying any air pollution control equipment.

7.0 PERMIT RENEWAL AND MODIFICATION

- 7.1. Permit Renewal Application**
- The completed application package for renewal of this permit is due on 4/1/2015. Two (2) copies of the application must be submitted to the DEQ Permit Coordinator listed in Condition 8.2
- 7.2. Permit Modifications**
- Application for a modification of this permit must be submitted not less than **60** days prior to the source modification. A special activity fee must be submitted with an application for the permit modification. The fees and two (2) copies of the application must be submitted to the Business Office of the Department.

8.0 DEQ CONTACTS / ADDRESSES

- 8.1. Business Office**
- The permittee must submit payments for invoices, applications to modify the permit, and any other payments to DEQ's Business Office:

Department of Environmental Quality
Business Office
811 SW Sixth Avenue
Portland, Oregon 97204-1390

- 8.2. **Permit Coordinator** The permittee must submit all Notices and applications that do not include payment to the Northwest Region's Permit Coordinator:

Department of Environmental Quality
Northwest Region
2020 SW 4th Avenue, Suite 400
Portland, OR 97201-4987
Telephone: (503) 229-5582

- 8.3. **Field Office** Unless otherwise notified, the permittee must submit all reports (annual reports, source test plans and reports, etc.) to field office noted below.

Department of Environmental Quality
NWR-ESO/AQ
1550 NW Eastman Pkwy, Suite 290
Gresham, OR 97030
Telephone: (503) 667-8414

- 8.4. **Web Site** Information about air quality permits and the Department's regulations may be obtained from the DEQ web page at www.deq.state.or.us

9.0 FEES

- 9.1. **Annual Compliance Fee** The Annual Fee specified in OAR 340-216-0020, Table 2, Part 2 for a Standard ACDP is due on **December 1** of each year this permit is in effect. An invoice indicating the amount, as determined by Department regulations, will be mailed prior to the above date. **Late fees in accordance with Part 4 of the table will be assessed as appropriate.**
- 9.2. **Change of Ownership or Company Name Fee** The non-technical permit modification fee specified in OAR 340-216-0020, Table 2, Part 3(a) is due with an application for changing the ownership or the name of the company.
- 9.3. **Special Activity Fees** The special activity fees specified in OAR 340-216-0020, Table 2, Part 3 (b through i) are due with an application to modify the permit.

10.0 GENERAL CONDITIONS AND DISCLAIMERS

- | | |
|-------------------------------------|---|
| 10.1. Permitted Activities | This permit allows the permittee to discharge air contaminants from processes and activities related to the air contaminant source(s) listed on the first page of this permit until this permit expires, is modified, or is revoked. |
| 10.2. Other Regulations | In addition to the specific requirements listed in this permit, the permittee must comply with all other legal requirements enforceable by the Department. |
| 10.3. Conflicting Conditions | In any instance in which there is an apparent conflict relative to conditions in this permit, the most stringent conditions apply. |
| 10.4. Masking of Emissions | The permittee must not cause or permit the installation of any device or use any means designed to mask the emissions of an air contaminant that causes or is likely to cause detriment to health, safety, or welfare of any person or otherwise violate any other regulation or requirement. |
| 10.5. Department Access | The permittee must allow the Department's representatives access to the plant site and pertinent records at all reasonable times for the purposes of performing inspections, surveys, collecting samples, obtaining data, reviewing and copying air contaminant emissions discharge records and conducting all necessary functions related to this permit in accordance with ORS 468-095. |
| 10.6. Permit Availability | The permittee must have a copy of the permit available at the facility at all times. |
| 10.7. Open Burning | The permittee may not conduct any open burning except as allowed by OAR 340 Division 264. |
| 10.8. Asbestos | The permittee must comply with the asbestos abatement requirements in OAR 340, Division 248 for all activities involving asbestos-containing materials, including, but not limit to, demolition, renovation, repair, construction, and maintenance. |

10.9. Property Rights The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.

10.10. Permit Expiration

- a. A source may not be operated after the expiration date of the permit, unless any of the following occur prior to the expiration date of the permit:
 - i. a timely and complete application for renewal or for an Oregon Title V Operating Permit has been submitted, or
 - ii. another type of permit (ACDP or Oregon Title V Operating Permit) has been issued authorizing operation of the source.
- b. For a source operating under an ACDP or Oregon Title V Operating Permit, a requirement established in an earlier ACDP remains in effect notwithstanding expiration of the ACDP, unless the provision expires by its terms or unless the provision is modified or terminated according to the procedures used to establish the requirement initially.

10.11. Permit Termination, Revocation, or Modification The Department may modify or revoke this permit pursuant to OAR 340-216-0082 and 340-216-0084.

11.0 ABBREVIATIONS, ACRONYMS, AND DEFINITIONS

ACDP	Air Contaminant Discharge Permit	NSR	New Source Review
ASTM	American Society for Testing and Materials	O ₂	oxygen
AQMA	Air Quality Maintenance Area	OAR	Oregon Administrative Rules
calendar year	The 12-month period beginning January 1st and ending December 31st	ORS	Oregon Revised Statutes
CFR	Code of Federal Regulations	O&M	operation and maintenance
CO	carbon monoxide	Pb	lead
DEQ	Oregon Department of Environmental Quality	PCD	pollution control device
dscf	dry standard cubic foot	PM	particulate matter
EPA	US Environmental Protection Agency	PM ₁₀	particulate matter less than 10 microns in size
FCAA	Federal Clean Air Act	ppm	part per million
gal	gallon(s)	PSD	Prevention of Significant Deterioration
gr/dscf	grains per dry standard cubic foot	PSEL	Plant Site Emission Limit
HAP	Hazardous Air Pollutant as defined by OAR 340-244-0040	PTE	Potential to Emit
I&M	inspection and maintenance	RACT	Reasonably Available Control Technology
lb	pound(s)	scf	standard cubic foot
MMBtu	million British thermal units	SER	Significant Emission Rate
NA	not applicable	SIC	Standard Industrial Code
NESHAP	National Emissions Standards for Hazardous Air Pollutants	SIP	State Implementation Plan
NO _x	nitrogen oxides	SO ₂	sulfur dioxide
NSPS	New Source Performance Standard	Special Control Area	as defined in OAR 340-204-0070
		VE	visible emissions
		VOC	volatile organic compound
		year	A period consisting of any 12-consecutive calendar months

Summary of PPT data without the uncertainties

sample date	Chromium (ng/m3)	Cobalt (ng/m3)	Arsenic (ng/m3)	Selenium (ng/m3)	Cadmium (ng/m3)	Lead (ng/m3)	Nickel (ng/m3)	Manganese (ng/m3)	Beryllium (ng/m3)
10/6/15	406.7	2.3	75.0	9.8	13.0	66.9	17.0	50.5	0.062
10/7/15	20.2	0.3	3.0	4.1	2.2	5.9	3.4	35.3	0.012
10/9/15	24.4	0.9	8.8	45.6	13.8	7.6	8.3	13.1	0.018
10/10/15	24.9	0.3	20.3	3.0	195.4	5.4	2.3	4.0	0.007
10/12/15	25.5	0.9	20.1	13.2	8.6	32.5	8.0	14.2	0.015
10/14/15	19.0	0.1	1.1	0.0	1.6	2.2	1.4	18.3	0.008
10/15/15	17.4	0.4	1.1	0.0	2.7	6.3	3.5	44.2	0.030
10/17/15	21.0	0.2	7.7	0.8	1.5	10.1	2.9	8.2	0.012
10/18/15	20.1	0.4	6.7	8.3	4.4	7.6	7.4	8.0	0.008
10/20/15	21.4	0.3	14.8	12.3	6.5	16.7	2.9	13.1	0.008
10/21/15	22.8	1.1	101.1	13.0	11.6	60.7	6.8	24.2	0.020
10/23/15	23.3	0.3	3.0	0.0	0.8	5.2	4.3	27.7	0.013
10/24/15	439.5	0.8	3.5	2.7	1.1	8.1	7.1	23.5	0.029
10/26/15	48.0	3.5	60.4	271.1	132.9	67.3	1.9	7.2	0.010
10/27/15	24.4	0.8	15.9	15.6	10.8	10.2	9.2	21.1	0.019
10/29/15	37.7	2.8	93.2	220.0	56.9	248.3	4.6	6.0	0.009
10/30/15	38.5	0.4	97.3	136.5	41.7	124.4	1.4	3.4	0.007
11/2/15	52.6	0.7	38.3	41.4	24.3	87.6	5.0	13.3	0.007
Average	71.5	0.9	31.7	44.3	29.4	42.9	5.4	18.6	0.016

ambient benchmark concentrations

	Chromium (ng/m3(L C))	Cobalt (ng/m3(L C))	Arsenic (ng/m3(L C))	Selenium (ng/m3(L C))	Cadmium (ng/m3(L C))	Lead (ng/m3(L C))	Nickel (ng/m3(L C))	Manganese (ng/m3(L C))	Beryllium (ng/m3(L C))
		100	0.2		0.6	150	2	90	0.4

Portland N. Roselawn (PNR) Metals data from October 2014 (for comparison). The 2015 data is not out yet.

	Chromium (ng/m3(L C))	Cobalt (ng/m3(L C))	Arsenic (ng/m3(L C))	Selenium (ng/m3(L C))	Cadmium (ng/m3(L C))	Lead (ng/m3(L C))	Nickel (ng/m3(L C))	Manganese (ng/m3(L C))	Beryllium (ng/m3(L C))
PNR									
10/2/2014	1.86	0.215	2.59	2.1	1.95	7.92	2.94	49.2	0.002
10/8/2014	1.06	0.131	0.622	0.165	0.066	2.47	2.4	31.7	0.002
10/14/2014	0.347	0.076	1.3	0.894	1.18	2.89	0.321	1.99	0.0007
10/20/2014	0.568	0.053	1.32	2.39	2.78	4.69	0.735	1.92	0.0004
10/26/2014	0.261	0.025	0.721	1.83	2.49	1.14	0.857	1.02	0.0006
Average	0.8192	0.1	1.3	1.5	1.7	3.8	1.45	17.2	0.0011

Difference between PPT and PNR

PPT-PNR	70.7	0.8	30.4	42.8	27.7	39.1	4.0	1.5	0.015
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Comments about this work sheet:

- a. In October 2015, DEQ and Reed College performed air toxics metals monitoring in the Fred Meyers HQ p
- b. The samples were collected on 47mm Teflon filters, at 16.7 LPM, through a PM10 preseperator. The sam
- c. The filters were sent to Desert Research Institute for ICP-MS analysis.
- d. The results are show in the following spreadsheets:
 - 1 "Metals Conc PPT and PNR" are the metals concentrations for Oct 2015 for PPT and Oct 2014 for Portlan
 - 2 "colors" is a table and a link to what metals are used for colors for glass manufacturing
 - 3 "QC" are the primary and duplicate samples, and the field blanks
 - 4 analysis flags are the flags definitions provided by DRI
 - 5 "Concentration Filter data" is the spreadsheet where I divided the filter mass by the sample volume for P
 - 6 Volumes are the filter volume and date information from DEQ
 - 7 "ICPMS data" are the filter mass and uncertainty data from DRI

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arking lot near SE Powel and SE 22nd Avenue in Portland (AKA PPT)
ples were collected from midnight to midnight.

d N. Roselawn (PNR). The ambient benchmark concentrations are also included

PT

1 Here are the Cadmium Result from the Fred Meyer parking lot across from Bullseye. The sites name is

			Emerald Green		Purple & A "decoloring" agent	
		Beryllium (ng/m3) uncertainty	Chromium (ng/m3) uncertainty	Chromium (ng/m3) uncertainty	Manganese (ng/m3)	
prim	sample date	Beryllium (ng/m3)	Beryllium (ng/m3) uncertainty	Chromium (ng/m3) uncertainty	Chromium (ng/m3) uncertainty	Manganese (ng/m3)
	10/6/15	0.062	0.0061	406.7	34.4	50.5
	10/7/15	0.012	0.0012	20.2	1.7	35.3
	10/9/15	0.018	0.0018	24.4	2.1	13.1
	10/10/15	0.007	0.0007	24.9	2.1	4.0
	10/12/15	0.015	0.0015	25.5	2.2	14.2
	10/14/15	0.008	0.0008	19.0	1.6	18.3
	10/15/15	0.030	0.0029	17.4	1.5	44.2
	10/17/15	0.012	0.0012	21.0	1.8	8.2
	10/18/15	0.008	0.0008	20.1	1.7	8.0
	10/20/15	0.008	0.0008	21.4	1.8	13.1
	10/21/15	0.020	0.0020	22.8	1.9	24.2
	10/23/15	0.013	0.0013	23.3	2.0	27.7
	10/24/15	0.029	0.0028	439.5	37.1	23.5
	10/26/15	0.010	0.0010	48.0	4.1	7.2
	10/27/15	0.019	0.0019	24.4	2.1	21.1
	10/29/15	0.009	0.0009	37.7	3.2	6.0
	10/30/15	0.007	0.0007	38.5	3.3	3.4
prim	11/2/15	0.007	0.0007	52.6	4.4	13.3
	average	0.016	0.002	69.119	5.841	18.469
	Maximum	0.062	0.006	439.507	37.142	50.502

2 Summary of PPT data without the uncertainties

	Chromium (ng/m3)	Cobalt (ng/m3)	Arsenic (ng/m3)	Selenium (ng/m3)	Cadmium (ng/m3)
sample date					
10/6/15	406.7	2.3	75.0	9.8	13.0
10/7/15	20.2	0.3	3.0	4.1	2.2
10/9/15	24.4	0.9	8.8	45.6	13.8
10/10/15	24.9	0.3	20.3	3.0	195.4
10/12/15	25.5	0.9	20.1	13.2	8.6
10/14/15	19.0	0.1	1.1	0.0	1.6
10/15/15	17.4	0.4	1.1	0.0	2.7
10/17/15	21.0	0.2	7.7	0.8	1.5
10/18/15	20.1	0.4	6.7	8.3	4.4
10/20/15	21.4	0.3	14.8	12.3	6.5
10/21/15	22.8	1.1	101.1	13.0	11.6
10/23/15	23.3	0.3	3.0	0.0	0.8
10/24/15	439.5	0.8	3.5	2.7	1.1
10/26/15	48.0	3.5	60.4	271.1	132.9
10/27/15	24.4	0.8	15.9	15.6	10.8
10/29/15	37.7	2.8	93.2	220.0	56.9

10/30/15	38.5	0.4	97.3	136.5	41.7
11/2/15	52.6	0.7	38.3	41.4	24.3
Average	71.5	0.9	31.7	44.3	29.4

3 Portland N. Roselawn (PNR) Metals data from October 2014 (for comparison). The 2015 data is not ou

PNR	Chromium				
	(ng/m3(LC))	Cobalt (ng/m3(LC))	Arsenic (ng/m3(LC))	Selenium (ng/m3(LC))	Cadmium (ng/m3(LC))
10/2/2014	1.86	0.215	2.59	2.1	1.95
10/8/2014	1.06	0.131	0.622	0.165	0.066
10/14/2014	0.347	0.076	1.3	0.894	1.18
10/20/2014	0.568	0.053	1.32	2.39	2.78
10/26/2014	0.261	0.025	0.721	1.83	2.49
Average	0.8192	0.1	1.3	1.5	1.7

4 Difference between PPT and PNR

PPT-PNR	70.7	0.8	30.4	42.8	27.7
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5 ambient benchmark concentrations

	Chromium (ng/m3(LC))	Cobalt (ng/m3(LC))	Arsenic (ng/m3(LC))	Selenium (ng/m3(LC))	Cadmium (ng/m3(LC))
		100	0.2		0.6

"Portland - Powell & Twenty Second" or PPT

Blue-Violet		Violet		Reds				
Manganese (ng/m3) uncertainty	Cobalt (ng/m3)	Cobalt (ng/m3) uncertainty	Nickel (ng/m3)	Nickel (ng/m3) uncertainty	Arsenic (ng/m3)	Arsenic (ng/m3) uncertainty	Selenium (ng/m3)	Selenium (ng/m3) uncertainty
1.33	2.3	0.0846	17.0	0.2680	75.0	3.7634	9.8	0.6484
0.93	0.3	0.0115	3.4	0.0541	3.0	0.1511	4.1	0.3371
0.35	0.9	0.0323	8.3	0.1315	8.8	0.4432	45.6	2.6106
0.11	0.3	0.0102	2.3	0.0365	20.3	1.0176	3.0	0.2761
0.37	0.9	0.0333	8.0	0.1267	20.1	1.0087	13.2	0.8369
0.48	0.1	0.0040	1.4	0.0220	1.1	0.0577	0.0	0.0791
1.17	0.4	0.0158	3.5	0.0555	1.1	0.0576	0.0	0.0710
0.22	0.2	0.0085	2.9	0.0461	7.7	0.3848	0.8	0.1551
0.21	0.4	0.0136	7.4	0.1166	6.7	0.3387	8.3	0.5670
0.35	0.3	0.0126	2.9	0.0455	14.8	0.7439	12.3	0.7843
0.64	1.1	0.0405	6.8	0.1074	101.1	5.0736	13.0	0.8230
0.73	0.3	0.0099	4.3	0.0678	3.0	0.1527	0.0	0.1033
0.62	0.8	0.0302	7.1	0.1120	3.5	0.1775	2.7	0.2620
0.19	3.5	0.1302	1.9	0.0306	60.4	3.0297	271.1	14.9439
0.56	0.8	0.0286	9.2	0.1449	15.9	0.7998	15.6	0.9696
0.16	2.8	0.1047	4.6	0.0726	93.2	4.6749	220.0	12.1456
0.09	0.4	0.0150	1.4	0.0226	97.3	4.8796	136.5	7.5815
0.35	0.7	0.0255	5.0	0.0787	38.3	1.9210	41.4	2.3789
0.487	0.909	0.034	5.556	0.088	31.205	1.566	42.718	2.446
1.332	3.477	0.130	16.990	0.268	101.117	5.074	271.121	14.944

Lead (ng/m3)	Nickel (ng/m3)	Manganese (ng/m3)	Beryllium (ng/m3)
66.9	17.0	50.5	0.062
5.9	3.4	35.3	0.012
7.6	8.3	13.1	0.018
5.4	2.3	4.0	0.007
32.5	8.0	14.2	0.015
2.2	1.4	18.3	0.008
6.3	3.5	44.2	0.030
10.1	2.9	8.2	0.012
7.6	7.4	8.0	0.008
16.7	2.9	13.1	0.008
60.7	6.8	24.2	0.020
5.2	4.3	27.7	0.013
8.1	7.1	23.5	0.029
67.3	1.9	7.2	0.010
10.2	9.2	21.1	0.019
248.3	4.6	6.0	0.009

124.4	1.4	3.4	0.007
87.6	5.0	13.3	0.007
42.9	5.4	18.6	0.016

t yet.

Lead (ng/m3(LC))	Nickel (ng/m3(LC))	Manganese (ng/m3(LC))	Beryllium (ng/m3(LC))
7.92	2.94	49.2	0.002
2.47	2.4	31.7	0.002
2.89	0.321	1.99	0.0007
4.69	0.735	1.92	0.0004
1.14	0.857	1.02	0.0006
3.8	1.45	17.2	0.0011

39.1	4.0	1.5	0.015
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Lead (ng/m3(LC))	Nickel (ng/m3(LC))	Manganese (ng/m3(LC))	Beryllium (ng/m3(LC))
150	2	90	0.4

Yellow		Yellow	
Cadmium (ng/m3)	Cadmium (ng/m3) uncertainty	Lead (ng/m3)	Lead (ng/m3) uncertainty
13.0	0.0692	66.9	0.7344
2.2	0.0119	5.9	0.0644
13.8	0.0736	7.6	0.0830
195.4	1.0413	5.4	0.0594
8.6	0.0457	32.5	0.3566
1.6	0.0085	2.2	0.0247
2.7	0.0144	6.3	0.0687
1.5	0.0079	10.1	0.1114
4.4	0.0238	7.6	0.0830
6.5	0.0347	16.7	0.1835
11.6	0.0621	60.7	0.6664
0.8	0.0042	5.2	0.0566
1.1	0.0059	8.1	0.0895
132.9	0.7080	67.3	0.7388
10.8	0.0574	10.2	0.1122
56.9	0.3029	248.3	2.7267
41.7	0.2221	124.4	1.3659
24.3	0.1298	87.6	0.9616
28.367	0.151	42.484	0.467
195.425	1.041	248.297	2.727

Metals	Color
Antimony Oxides	White
Cadmium Sulfide	Yellow
Carbon Oxides	Amber Brown
Chromic Oxide	Emerald Green
Cobalt Oxide	Blue-Violet
Copper Compounds	Blue, Green, Red
Gold Chloride	Red
Iron Oxide	Greens and Browns
Lead Compounds	Yellow
Manganese Dioxide	Purple
Manganese Dioxide	A "decoloring" agent
Nickel Oxide	Violet
Selenium Oxide	Reds
Sodium Nitrate	A "decoloring" agent
Sulfur	Yellow-Amber
Tin Compounds	White
Uranium Oxide	Fluorescent Yellow, Green

<http://geology.com/articles/color-in-glass.shtml>

					Beryllium (µg/filter)	Beryllium (ng/m3)	Beryllium (µg/filter) uncertainty	Beryllium (ng/m3) uncertainty	Chromium (µg/filter)
prim	F52211	720	12-Oct-2015	24.04	0.000360	0.015	0.000036	0.0015	0.612148
Dup	F52212	685	12-Oct-2015	24.04	0.000407	0.017	0.000040	0.0017	0.625653
% diff						-13%		-13%	
prim	F52213	720	2-Nov-2015	24.04	0.000162	0.007	0.000016	0.0007	1.263408
Dup	F52225	685	2-Nov-2015	Max Load	0.000247	Max Load	0.000024	Max Load	0.469061
% diff						#VALUE!		#VALUE!	
Field Blank	F52216	685		FB	0.000149	FB	0.000015	FB	0.422585

	Chromium			Maanese	Manganes			Cobalt
	Chromium (ng/m3)	uncertain	Maanese	Manganes	uncertain	uncertain	Cobalt	Cobalt
Chromium (ng/m3)	(µg/filter)	y	(µg/filter)	e (ng/m3)	y	y	(µg/filter)	(ng/m3)
25.5	0.051732	2.2	0.341501	14.2	0.009011	0.37	0.021369	0.9
26.0	0.052873	2.2	0.372180	15.5	0.009822	0.41	0.023136	1.0
-2%		-2%		-9%		-9%		-8%
52.6	0.106768	4.4	0.319138	13.3	0.008420	0.35	0.016366	0.7
Max Load	0.039639	Max Load	1.264638	Max Load	0.033370	Max Load	0.030611	Max Load
#VALUE!		#VALUE!		#VALUE!		#VALUE!		#VALUE!
FB	0.035712	FB	0.000000	FB	0.000064	FB	0.000028	FB

Cobalt (ng/m3)			Nickel (µg/filter)	Nickel (ng/m3)			Arsenic (µg/filter)	Arsenic (ng/m3)		
uncertainty	Nickel (µg/filter)	Nickel (ng/m3)	uncertainty	uncertainty	Arsenic (µg/filter)	Arsenic (ng/m3)	uncertainty	uncertainty	Selenium (µg/filter)	
y			y	y			y	y		
0.0333	0.193043	8.0	0.003045	0.1267	0.483273	20.1	0.024248	1.0087	0.317805	
0.0360	0.192664	8.0	0.003039	0.1264	0.514504	21.4	0.025816	1.0739	0.344154	
-8%		0%		0%		-6%		-6%		
0.0255	0.119905	5.0	0.001892	0.0787	0.920397	38.3	0.046181	1.9210	0.995504	
Max Load	0.742832	Max Load	0.011718	Max Load	0.008116	Max Load	0.000408	Max Load	0.000000	
#VALUE!		#VALUE!		#VALUE!		#VALUE!		#VALUE!		
FB	0.000000	FB	0.000010	FB	0.000000	FB	0.000094	FB	0.000000	

	Selenium (µg/filter) uncertain	Selenium (ng/m3) uncertain	Cadmium (µg/filter)	Cadmium (ng/m3)	Cadmium (µg/filter) uncertain	Cadmium (ng/m3) uncertain	Lead (µg/filter)	Lead (ng/m3)	Lead (µg/filter) uncertain
Selenium (ng/m3)	y	y			y	y			y
13.2	0.020119	0.8369	0.206074	8.6	0.001100	0.0457	0.780619	32.5	0.008573
14.3	0.021560	0.8968	0.220369	9.2	0.001175	0.0489	0.826969	34.4	0.009082
-8%		-7%		-7%		-7%		-6%	
41.4	0.057188	2.3789	0.585271	24.3	0.003120	0.1298	2.105037	87.6	0.023117
Max Load	0.001874	Max Load	0.001458	Max Load	0.000012	Max Load	0.000000	Max Load	0.000053
#VALUE!		#VALUE!		#VALUE!		#VALUE!		#VALUE!	
FB	0.002348	FB	0.000859	FB	0.000005	FB	0.000000	FB	0.000059

Lead
(ng/m3)
uncertainty

0.3566

0.3778

-6%

0.9616

Max Load

#VALUE!

FB

Table 3

Validation Flag	Sub Flag	Description
b		Blank.
	b1	Field/-dynamic blank.
	b2	Laboratory blank.
	b3	Distilled-deionized water blank.
	b4	Method blank.
	b5	Extract/-solution blank.
	b6	Transport blank.
c		Analysis result reprocessed or recalculated.
	c1	XRF spectrum reprocessed using manually adjusted background.
	c2	XRF spectrum reprocessed using interactive deconvolution
d		Sample dropped.
f		Filter damaged or ripped.
	f1	Filter damaged, outside of analysis area.
	f2	Filter damaged, within analysis area.
	f3	Filter wrinkled.
	f4	Filter stuck to PetriSlide.
	f5	Teflon membrane separated from support ring.
	f6	Pinholes in filter.
g		Filter deposit damaged.
	g1	Deposit scratched or scraped, causing a thin line in the deposit.
	g2	Deposit smudged, causing a large area of deposit to be displaced.
	g3	Filter deposit side down in PetriSlide.
	g4	Part of deposit appears to have fallen off; particles on inside of PetriSlide.
	g5	Ungloved finger touched filter.
	g6	Gloved finger touched filter.
h		Filter holder assembly problem.
	h1	Deposit not centered.
	h2	Sampled on wrong side of filter.
	h4	Filter support grid upside down- deposit has widely spaced stripes or grid pattern.
	h5	Two filters in PetriSlide- analyzed separately.
i		Inhomogeneous sample deposit.
	i1	Evidence of impaction - deposit heavier in center of filter.
	i2	Random areas of darker or lighter deposit on filter.
	i3	Light colored deposit with dark specks.
	i4	Non-uniform deposit near edge □ possible air leak.
m		Analysis results affected by matrix effect.
	m1	Organic/elemental carbon split undetermined due to an apparent color change of non-carbon particles during analysis; all measured carbon reported as organic.
	m2	Non-white (red) carbon punch after carbon analysis, indicative of mineral particles in deposit.
	m3	A non-typical, but valid, laser response was observed during IOR analysis. This phenomena may result in increased uncertainty of the organic/elemental carbon split. Total carbon measurements are likely unaffected.
	m4	FID drift quality control failure
	m5	Non-white (grey) carbon punch after carbon analysis.
n		Foreign substance on sample.
	n1	Insects on deposit, removed before analysis.
	n2	Insects on deposit, not all removed.
	n3	Metallic particles observed on deposit.
	n4	Many particles on deposit much larger than cut point of inlet.
	n5	Fibers or fuzz on filter.
	n6	Oily-looking droplets on filter.
	n7	Shiny substance on filter.
	n8	Particles on back of filter.
	n9	Discoloration on deposit.
q		Standard.
	q1	Quality control standard.
	q2	Externally prepared quality control standard.
	q3	Second type of externally prepared quality control standard.
	q4	Calibration standard.
r		Replicate analysis.
	r1	First replicate analysis on the same analyzer.
	r2	Second replicate analysis on the same analyzer.
	r3	Third replicate analysis on the same analyzer.
	r4	Sample re-analysis.
	r5	Replicate on different analyzer.
	r6	Sample re-extraction and re-analysis.
	r7	Sample re-analyzed with same result, original value used.
s		Suspect analysis result.
v		Invalid (void) analysis result.
	v1	Quality control standard check exceeded $\pm 10\%$ of specified concentration range.
	v2	Replicate analysis failed acceptable limit specified in SOP.
	v3	Potential contamination.
	v4	Concentration out of expected range.
	v5	Instrument hardware error
	v6	Operator error
	v7	Instrument software error
w		Wet Sample.
	w1	Deposit spotted from water drops.
y		Data normalized
	y1	XRF data normalized to a sulfate/sulfur ratio of three
	y2	Each species reported as a percentage of the measured species sum

	TID	ELPF	Volume	Beryllium (µg/filter)	Beryllium (ng/m3)	Beryllium (µg/filter) uncertainty	
prim Dup	F52226	685	6-Oct-2015	24.04	0.001490	0.062	0.000147
	F52220	720	7-Oct-2015	24.04	0.000295	0.012	0.000029
	F52221	685	9-Oct-2015	24.04	0.000434	0.018	0.000043
	F52231	720	10-Oct-2015	24.04	0.000176	0.007	0.000017
	F52211	720	12-Oct-2015	24.04	0.000360	0.015	0.000036
	F52212	685	12-Oct-2015	24.04	0.000407	0.017	0.000040
	F52230	685	14-Oct-2015	24.04	0.000197	0.008	0.000019
	F52232	720	15-Oct-2015	24.04	0.000718	0.030	0.000071
	F52224	685	17-Oct-2015	24.04	0.000290	0.012	0.000029
	F52217	720	18-Oct-2015	24.04	0.000186	0.008	0.000018
	F52228	685	20-Oct-2015	24.04	0.000204	0.008	0.000020
	F52215	720	21-Oct-2015	24.04	0.000479	0.020	0.000047
	F52229	685	23-Oct-2015	24.04	0.000310	0.013	0.000031
	F52222	720	24-Oct-2015	24.04	0.000694	0.029	0.000068
	F52218	685	26-Oct-2015	24.04	0.000239	0.010	0.000024
	F52214	720	27-Oct-2015	24.04	0.000457	0.019	0.000045
	F52219	685	29-Oct-2015	24.04	0.000215	0.009	0.000021
	F52227	720	30-Oct-2015	24.04	0.000163	0.007	0.000016
prim Dup	F52213	720	2-Nov-2015	24.04	0.000162	0.007	0.000016
	F52225	685	2-Nov-2015	Inst. Malf	0.000247	Inst. Malf	0.000024
	average				0.016		
	Maximum				0.062		
	F52216	685	FB	0.000149	FB	0.000015	

TID	Teflon filter ID
ELPF	ICP Analysis flag
BEPC	Beryllium concentration (µg/filter)
BEPD	Beryllium concentration (µg/filter) uncertainty
CRPC	Chromium concentration (µg/filter)
CRPD	Chromium concentration (µg/filter) uncertainty
MNPC	Manganese concentration (µg/filter)
MNPD	Manganese concentration (µg/filter) uncertainty
COPC	Cobalt concentration (µg/filter)
COPD	Cobalt concentration (µg/filter) uncertainty
NIPC	Nickel concentration (µg/filter)
NIPD	Nickel concentration (µg/filter) uncertainty
ASPC	Arsenic concentration (µg/filter)
ASPD	Arsenic concentration (µg/filter) uncertainty
SEPC	Selenium concentration (µg/filter)
SEPD	Selenium concentration (µg/filter) uncertainty
CDPC	Cadmium concentration (µg/filter)
CDPD	Cadmium concentration (µg/filter) uncertainty

PBPC	Lead concentration (µg/filter)
PBPU	Lead concentration (µg/filter) uncertainty
COMMENT	

Beryllium (ng/m3) uncertainty	Chromium (µg/filter)	Chromium (ng/m3)	Chromium (µg/filter) uncertainty	Chromium (ng/m3) uncertainty	Maanese (µg/filter)	Manganese (ng/m3)
0.0061	9.777139	406.7	0.826240	34.4	1.214065	50.5
0.0012	0.485409	20.2	0.041021	1.7	0.848040	35.3
0.0018	0.587165	24.4	0.049620	2.1	0.316061	13.1
0.0007	0.598764	24.9	0.050602	2.1	0.097215	4.0
0.0015	0.612148	25.5	0.051732	2.2	0.341501	14.2
0.0017	0.625653	26.0	0.052873	2.2	0.372180	15.5
0.0008	0.456096	19.0	0.038544	1.6	0.439205	18.3
0.0029	0.418755	17.4	0.035388	1.5	1.062385	44.2
0.0012	0.504036	21.0	0.042595	1.8	0.197484	8.2
0.0008	0.482091	20.1	0.040741	1.7	0.193051	8.0
0.0008	0.513931	21.4	0.043431	1.8	0.315963	13.1
0.0020	0.548455	22.8	0.046349	1.9	0.582408	24.2
0.0013	0.561294	23.3	0.047433	2.0	0.665881	27.7
0.0028	10.565750	439.5	0.892885	37.1	0.564558	23.5
0.0010	1.153036	48.0	0.097440	4.1	0.173329	7.2
0.0019	0.585933	24.4	0.049516	2.1	0.508412	21.1
0.0009	0.905609	37.7	0.076531	3.2	0.144379	6.0
0.0007	0.926290	38.5	0.078280	3.3	0.080552	3.4
0.0007	1.263408	52.6	0.106768	4.4	0.319138	13.3
Inst. Malf 0.002	0.469061	Inst. Malf 69.119	0.039639	Inst. Malf 5.841	1.264638	Inst. Malf 18.469
0.006		439.507		37.142		50.502
FB	0.422585	FB	0.035712	FB	0.000000	FB

(µg/filter)	52211	52211	720
	52212	52212	685
	52213	52213	720
	52214	52214	720
	52215	52215	720
	52217	52217	720
	52218	52218	685
	52219	52219	685
	52220	52220	720
	52221	52221	685
	52222	52222	720
	52224	52224	685
	52225	52225	685
	52226	52226	685
	52227	52227	720
	52228	52228	685

52229	52229	685
52230	52230	685
52231	52231	720
52232	52232	720

Maanese (µg/filter) uncertainty	Manganese (ng/m3) uncertainty	Cobalt (µg/filter)	Cobalt (ng/m3) y	Cobalt (µg/filter) uncertainty	Cobalt (ng/m3) uncertainty	Nickel (µg/filter)	Nickel (ng/m3)
0.032031	1.33	0.054318	2.3	0.002034	0.0846	0.408443	17.0
0.022373	0.93	0.007399	0.3	0.000277	0.0115	0.082391	3.4
0.008341	0.35	0.020704	0.9	0.000775	0.0323	0.200401	8.3
0.002566	0.11	0.006547	0.3	0.000245	0.0102	0.055534	2.3
0.009011	0.37	0.021369	0.9	0.000800	0.0333	0.193043	8.0
0.009822	0.41	0.023136	1.0	0.000867	0.0360	0.192664	8.0
0.011589	0.48	0.002557	0.1	0.000096	0.0040	0.033508	1.4
0.028032	1.17	0.010155	0.4	0.000380	0.0158	0.084535	3.5
0.005212	0.22	0.005426	0.2	0.000203	0.0085	0.070249	2.9
0.005093	0.21	0.008747	0.4	0.000328	0.0136	0.177632	7.4
0.008336	0.35	0.008065	0.3	0.000302	0.0126	0.069397	2.9
0.015366	0.64	0.025995	1.1	0.000974	0.0405	0.163602	6.8
0.017571	0.73	0.006332	0.3	0.000237	0.0099	0.103368	4.3
0.014895	0.62	0.019358	0.8	0.000725	0.0302	0.170744	7.1
0.004573	0.19	0.083590	3.5	0.003131	0.1302	0.046621	1.9
0.013414	0.56	0.018330	0.8	0.000687	0.0286	0.220851	9.2
0.003810	0.16	0.067175	2.8	0.002516	0.1047	0.110607	4.6
0.002126	0.09	0.009627	0.4	0.000361	0.0150	0.034380	1.4
0.008420	0.35	0.016366	0.7	0.000613	0.0255	0.119905	5.0
0.033370	Inst. Malf	0.030611	Inst. Malf	0.001146	Inst. Malf	0.742832	Inst. Malf
	0.487		0.909		0.034		5.556
	1.332		3.477		0.130		16.990
0.000064	FB	0.000028	FB	0.000002	FB	0.000000	FB

Nickel (µg/filter) uncertainty	Nickel (ng/m3) uncertainty	Arsenic (µg/filter)	Arsenic (ng/m3)	Arsenic (µg/filter) uncertainty	Arsenic (ng/m3) uncertainty	Selenium m (µg/filter)	Seleniu (ng/m3)	Selenium (µg/filter) uncertainty
0.006443	0.2680	1.803122	75.0	0.090472	3.7634	0.234985	9.8	0.015588
0.001300	0.0541	0.072391	3.0	0.003632	0.1511	0.098170	4.1	0.008105
0.003162	0.1315	0.212310	8.8	0.010654	0.4432	1.097347	45.6	0.062759
0.000876	0.0365	0.487534	20.3	0.024464	1.0176	0.071354	3.0	0.006638
0.003045	0.1267	0.483273	20.1	0.024248	1.0087	0.317805	13.2	0.020119
0.003039	0.1264	0.514504	21.4	0.025816	1.0739	0.344154	14.3	0.021560
0.000529	0.0220	0.027602	1.1	0.001388	0.0577	0.000000	0.0	0.001901
0.001334	0.0555	0.027530	1.1	0.001384	0.0576	0.000000	0.0	0.001706
0.001108	0.0461	0.184350	7.7	0.009250	0.3848	0.018158	0.8	0.003728
0.002802	0.1166	0.162261	6.7	0.008142	0.3387	0.199185	8.3	0.013630
0.001095	0.0455	0.356410	14.8	0.017884	0.7439	0.294675	12.3	0.018853
0.002581	0.1074	2.430858	101.1	0.121969	5.0736	0.311687	13.0	0.019784
0.001631	0.0678	0.073123	3.0	0.003670	0.1527	0.000000	0.0	0.002483
0.002694	0.1120	0.085017	3.5	0.004267	0.1775	0.065133	2.7	0.006298
0.000736	0.0306	1.451589	60.4	0.072834	3.0297	6.517750	271.1	0.359250
0.003484	0.1449	0.383167	15.9	0.019227	0.7998	0.376118	15.6	0.023308
0.001745	0.0726	2.239859	93.2	0.112385	4.6749	5.287937	220.0	0.291981
0.000543	0.0226	2.337929	97.3	0.117307	4.8796	3.282050	136.5	0.182260
0.001892	0.0787	0.920397	38.3	0.046181	1.9210	0.995504	41.4	0.057188
0.011718	Inst. Malf	0.008116	Inst. Malf	0.000408	Inst. Malf	0.000000	Inst. Malf	0.001874
	0.088		31.205		1.566		42.718	
	0.268		101.117		5.074		271.121	
0.000010	FB	0.000000	FB	0.000094	FB	0.000000	FB	0.002348

Selenium (ng/m3) uncertainty	Cadmium (µg/filter) (ng/m3)	Cadmium (µg/filter) uncertainty	Cadmium (ng/m3) uncertainty	Lead (µg/filter) (ng/m3)	Lead (µg/filter) uncertainty		
0.6484	0.312144	13.0	0.001663	0.0692	1.607603	66.9	0.017655
0.3371	0.053429	2.2	0.000286	0.0119	0.140977	5.9	0.001548
2.6106	0.332168	13.8	0.001770	0.0736	0.181630	7.6	0.001995
0.2761	4.698015	195.4	0.025033	1.0413	0.130060	5.4	0.001428
0.8369	0.206074	8.6	0.001100	0.0457	0.780619	32.5	0.008573
0.8968	0.220369	9.2	0.001175	0.0489	0.826969	34.4	0.009082
0.0791	0.038373	1.6	0.000205	0.0085	0.054054	2.2	0.000594
0.0710	0.064711	2.7	0.000346	0.0144	0.150379	6.3	0.001651
0.1551	0.035416	1.5	0.000189	0.0079	0.243870	10.1	0.002678
0.5670	0.106763	4.4	0.000572	0.0238	0.181687	7.6	0.001995
0.7843	0.156271	6.5	0.000835	0.0347	0.401609	16.7	0.004410
0.8230	0.279898	11.6	0.001494	0.0621	1.458829	60.7	0.016021
0.1033	0.018624	0.8	0.000100	0.0042	0.123936	5.2	0.001361
0.2620	0.026580	1.1	0.000143	0.0059	0.195872	8.1	0.002151
14.9439	3.195142	132.9	0.017021	0.7080	1.617265	67.3	0.017760
0.9696	0.258913	10.8	0.001381	0.0574	0.245589	10.2	0.002697
12.1456	1.366799	56.9	0.007283	0.3029	5.969062	248.3	0.065551
7.5815	1.001881	41.7	0.005338	0.2221	2.990152	124.4	0.032837
2.3789	0.585271	24.3	0.003120	0.1298	2.105037	87.6	0.023117
Inst. Malf	0.001458	Inst. Malf	0.000012	Inst. Malf	0.000000	Inst. Malf	0.000053
2.446		28.367		0.151		42.484	
14.944		195.425		1.041		248.297	
FB	0.000859	FB	0.000005	FB	0.000000	FB	0.000059

Lead (ng/m3)
uncertainty

0.7344

0.0644

0.0830

0.0594

0.3566

0.3778

0.0247

0.0687

0.1114

0.0830

0.1835

0.6664

0.0566

0.0895

0.7388

0.1122

2.7267

1.3659

0.9616

Inst. Malf

0.467

2.727

FB

Sample Number	Equipment S/N	Set up Date & Time		Sample Date & Time		Total Run Time	Flow Rate (lpm)	Volume (M ³)	Retrieval Date	& Time	Sample Type	Valid/Void
52211	720	11-Oct-2015	18:28	12-Oct-2015	0:01	1440	16.7	24.04	13-Oct-2015	10:22	Both	valid
52212	685	11-Oct-2015	18:22	12-Oct-2015	0:01	1440	16.7	24.04	13-Oct-2015	10:17	P2	valid
52213	720	31-Oct-2015	16:43	2-Nov-2015	0:01	1440	16.7	24.04	3-Nov-2015	13:23	Both	valid
52214	720	25-Jan-1900	11:26	27-Oct-2015	0:01	1440	16.7	24.04	28-Oct-2015	18:03	P2	valid
52215	720	19-Oct-2015	16:55	21-Oct-2015	0:01	1440	16.7	24.04	22-Oct-2015	11:23	P2	valid
52216	685	16-Oct-2015		NA	NA	NA	NA	NA	16-Oct-2015		P1	valid
52217	720	16-Oct-2015	14:41	18-Oct-2015	0:01	1440	16.7	24.04	19-Oct-2015	16:53	P2	valid
52218	685	25-Oct-2015	11:23	26-Oct-2015	0:01	1440	16.7	24.04	28-Oct-2015	17:58	P1	valid
52219	685	28-Oct-2015	18:01	29-Oct-2015	0:01	1440	16.7	24.04	31-Oct-2015	16:35	P1	valid
52220	720	5-Oct-2015	14:18	7-Oct-2015	0:01	1440	16.7	24.04	8-Oct-2015	12:35	P2	valid
52221	685	8-Oct-2015	12:37	9-Oct-2015	0:01	1440	16.7	24.04	11-Oct-2015	18:19	P1	valid
52222	720	22-Oct-2015	11:28	24-Oct-2015	0:01	1440	16.7	24.04	25-Oct-2015	11:25	P2	valid
52224	685	16-Oct-2015	14:39	17-Oct-2015	0:01	1440	16.7	24.04	19-Oct-2015	16:49	P1	valid
52225	685	31-Oct-2015	16:38	2-Nov-2015	0:01	-----	16.7	Max Load	2-Nov-2015	13:20	Both	void
52226	685	5-Oct-2015	14:15	6-Oct-2015	0:01	1440	16.7	24.04	8-Oct-2015	12:31	P1	valid
52227	720	28-Oct-2015	18:05	30-Oct-2015	0:01	1440	16.7	24.04	31-Oct-2015	16:41	P2	valid
52228	685	19-Oct-2015	16:51	20-Oct-2015	0:01	1440	16.7	24.04	22-Oct-2015	11:21	P1	valid
52229	685	22-Oct-2015	11:24	23-Oct-2015	0:01	1440	16.7	24.04	25-Oct-2015	11:20	P1	valid
52230	685	13-Oct-2015	10:19	14-Oct-2015	0:01	1440	16.7	24.04	16-Oct-2015	14:13	P1	valid
52231	720	8-Oct-2015	12:47	10-Oct-2015	0:01	1440	16.7	24.04	11-Oct-2015	18:25	P2	valid
52232	720	13-Oct-2015	10:24	15-Oct-2015	0:01	1440	16.7	24.04	16-Oct-2015	14:35	P2	valid

Operator
Initials

JB/MK 24.048

JB/MK

JB/MK

JB/MK

JB/MK

JB/MK/CBM Field Blank

JB/MK

JB/MK

JB/MK

JB/MK

JB/MK

JB/MK

JB/MK/CBM

JB/MK

JB/MK

JB/MK

JB/MK

JB/MK

JB/MK

JB/MK

JB/MK

TID	ELPF BEPC	BEPU	CRPC	CRPU	MNPC
	ug/filter Ug/m3				
F52211	0.000360	0.000036	0.612148	0.051732	0.341501
F52212	0.000407	0.000040	0.625653	0.052873	0.372180
F52213	0.000162	0.000016	1.263408	0.106768	0.319138
F52214	0.000457	0.000045	0.585933	0.049516	0.508412
F52215	0.000479	0.000047	0.548455	0.046349	0.582408
F52216	0.000149	0.000015	0.422585	0.035712	0.000000
F52217	0.000186	0.000018	0.482091	0.040741	0.193051
F52218	0.000239	0.000024	1.153036	0.097440	0.173329
F52219	0.000215	0.000021	0.905609	0.076531	0.144379
F52220	0.000295	0.000029	0.485409	0.041021	0.848040
F52221	0.000434	0.000043	0.587165	0.049620	0.316061
F52222	0.000694	0.000068	10.565750	0.892885	0.564558
F52224	0.000290	0.000029	0.504036	0.042595	0.197484
F52225	0.000247	0.000024	0.469061	0.039639	1.264638
F52226	0.001490	0.000147	9.777139	0.826240	1.214065
F52227	0.000163	0.000016	0.926290	0.078280	0.080552
F52228	0.000204	0.000020	0.513931	0.043431	0.315963
F52229	0.000310	0.000031	0.561294	0.047433	0.665881
F52230	0.000197	0.000019	0.456096	0.038544	0.439205
F52231	0.000176	0.000017	0.598764	0.050602	0.097215
F52232	0.000718	0.000071	0.418755	0.035388	1.062385

micrograms per filter

TID	Teflon filter ID
ELPF	ICP Analysis flag
BEPC	Beryllium Filter mass (µg/filter)
BEPU	Beryllium Filter mass (µg/filter) uncertainty
CRPC	Chromium Filter mass (µg/filter)
CRPU	Chromium Filter mass (µg/filter) uncertainty
MNPC	Manganese Filter mass (µg/filter)
MNPU	Manganese Filter mass (µg/filter) uncertainty
COPC	Cobalt Filter mass (µg/filter)
COPU	Cobalt Filter mass (µg/filter) uncertainty
NIPC	Nickel Filter mass (µg/filter)
NIPU	Nickel Filter mass (µg/filter) uncertainty
ASPC	Arsenic Filter mass (µg/filter)
ASPU	Arsenic Filter mass (µg/filter) uncertainty
SEPC	Selenium Filter mass (µg/filter)
SEPU	Selenium Filter mass (µg/filter) uncertainty
CDPC	Cadmium Filter mass (µg/filter)
CDPU	Cadmium Filter mass (µg/filter) uncertainty
PBPC	Lead Filter mass (µg/filter)
PBPU	Lead Filter mass (µg/filter) uncertainty
COMMENT	

MNPU	COPC	COPU	NIPC	NIPU
0.009011	0.021369	0.000800	0.193043	0.003045
0.009822	0.023136	0.000867	0.192664	0.003039
0.008420	0.016366	0.000613	0.119905	0.001892
0.013414	0.018330	0.000687	0.220851	0.003484
0.015366	0.025995	0.000974	0.163602	0.002581
0.000064	0.000028	0.000002	0.000000	0.000010
0.005093	0.008747	0.000328	0.177632	0.002802
0.004573	0.083590	0.003131	0.046621	0.000736
0.003810	0.067175	0.002516	0.110607	0.001745
0.022373	0.007399	0.000277	0.082391	0.001300
0.008341	0.020704	0.000775	0.200401	0.003162
0.014895	0.019358	0.000725	0.170744	0.002694
0.005212	0.005426	0.000203	0.070249	0.001108
0.033370	0.030611	0.001146	0.742832	0.011718
0.032031	0.054318	0.002034	0.408443	0.006443
0.002126	0.009627	0.000361	0.034380	0.000543
0.008336	0.008065	0.000302	0.069397	0.001095
0.017571	0.006332	0.000237	0.103368	0.001631
0.011589	0.002557	0.000096	0.033508	0.000529
0.002566	0.006547	0.000245	0.055534	0.000876
0.028032	0.010155	0.000380	0.084535	0.001334

ASPC	ASPU	SEPC	SEPU	CDPC	CDPU
0.483273	0.024248	0.317805	0.020119	0.206074	0.001100
0.514504	0.025816	0.344154	0.021560	0.220369	0.001175
0.920397	0.046181	0.995504	0.057188	0.585271	0.003120
0.383167	0.019227	0.376118	0.023308	0.258913	0.001381
2.430858	0.121969	0.311687	0.019784	0.279898	0.001494
0.000000	0.000094	0.000000	0.002348	0.000859	0.000005
0.162261	0.008142	0.199185	0.013630	0.106763	0.000572
1.451589	0.072834	6.517750	0.359250	3.195142	0.017021
2.239859	0.112385	5.287937	0.291981	1.366799	0.007283
0.072391	0.003632	0.098170	0.008105	0.053429	0.000286
0.212310	0.010654	1.097347	0.062759	0.332168	0.001770
0.085017	0.004267	0.065133	0.006298	0.026580	0.000143
0.184350	0.009250	0.018158	0.003728	0.035416	0.000189
0.008116	0.000408	0.000000	0.001874	0.001458	0.000012
1.803122	0.090472	0.234985	0.015588	0.312144	0.001663
2.337929	0.117307	3.282050	0.182260	1.001881	0.005338
0.356410	0.017884	0.294675	0.018853	0.156271	0.000835
0.073123	0.003670	0.000000	0.002483	0.018624	0.000100
0.027602	0.001388	0.000000	0.001901	0.038373	0.000205
0.487534	0.024464	0.071354	0.006638	4.698015	0.025033
0.027530	0.001384	0.000000	0.001706	0.064711	0.000346

PBPC	PBPU	COMMENT
0.780619	0.008573	
0.826969	0.009082	
2.105037	0.023117	
0.245589	0.002697	
1.458829	0.016021	
0.000000	0.000059	
0.181687	0.001995	
1.617265	0.017760	
5.969062	0.065551	
0.140977	0.001548	
0.181630	0.001995	
0.195872	0.002151	
0.243870	0.002678	
0.000000	0.000053	
1.607603	0.017655	
2.990152	0.032837	
0.401609	0.004410	
0.123936	0.001361	
0.054054	0.000594	
0.130060	0.001428	
0.150379	0.001651	